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# THE CANADIAN MANUFACTURER

## AND INDUSTRIAL WORLD.

DEVOTED TO \*  
THE  
MANUFACTURING & MINING INDUSTRIES,  
OF THE \*  
DOMINION.

Vol. 6.

TORONTO, FEBRUARY 4, 1887.

No. 3

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# THE CANADIAN MANUFACTURER

DEVOTED TO \*  
THE MANUFACTURING & MINING INDUSTRIES,  
OF THE DOMINION. \* AND INDUSTRIAL WORLD.

VOL. VI.

TORONTO, ONT., FEBRUARY 4, 1887.

No. 3.

## AN OPEN LETTER TO MANUFACTURERS.

Sir.—A prominent manufacturer, with Reform sympathies, came to me the other day with a copy of Mr. Blake's speech at Malvern, and asked my opinion as to whether I considered the interests of manufacturers safe in his hands, now that he had swallowed his convictions, and, apparently, adopted the policy of Protection to native industry, which he had erstwhile so bitterly attacked.

Having carefully read the speech referred to I was enabled to reply that I considered it but a plausible subterfuge to catch votes, and that manufacturers would never cease to regret their action were they in this crisis to drop the substance, already within their grasp, for the shadow of an "alternative policy." I gave him my reasons for this opinion and now submit these same reasons, in brief, for the consideration of your readers.

Near the commencement of his speech Mr. Blake was careful to assure his audience "that there is, in my belief, a general concurrence of sentiment between us, including Sir R. Cartwright, whom I name only because our adversaries delight to represent him as holding other views." Mr. Blake was certainly within the mark in assuming that the friends of the National Policy believe Sir Richard to hold other views. We judge him by his acts and by his utterances. He at least has not yet turned a political somersault on the tariff question, but *per contra* his most recent deliverances have been as bitterly denunciatory of Protection as the most ardent Free Trader could desire. I only quote extracts from his speeches of a not later date than 1886. During the very last session of Parliament, in the course of his speech on the Budget, he said, "I said then [1879], and I say now, that the manufacturers, if they had known their own interest, would have been infinitely better off, in the long run, under the tariff of 1878. . . . Lastly we pointed out this, and I repeat it now, that no more stupid act of folly was ever committed than in insisting on imitating the Protective policy of the United States." During the same session he said, amidst the applause of the Reform members: "Upon my word, Mr. Speaker, I must say that this Protection business, in which I do not believe in the slightest degree, in any shape or form, looking upon it as a clear robbery of the consumer, is being run into the ground."

Again, in the same debate, he reiterates his condemnation of the National Policy, or anything approaching to it, in the following language: "But I have no doubt whatever in my mind, as there was no doubt when this policy was proposed, that our stupid and foolish imitation of the American Protective system, would inevitably result, as I say it is resulting to-day,

in causing a very large number of manufacturers of Canada to desire, at any cost and in any shape or fashion, to extend our markets, and to obtain a commercial, if not a political incorporation with the United States." The above extracts, which can be multiplied almost *ad infinitum* are sufficient, I think, to make any manufacturer hesitate to entrust Sir Richard with an opportunity to tinker with the tariff, when he can help to prevent such a calamitous consummation by his vote and influence.

As his speech progressed Mr. Blake took his audience into his confidence and endeavored to excuse his sudden change of front by saying, "But you know also that we are obliged to raise yearly a great sum, made greater by the obligations imposed upon us by this Government; and that we must continue to raise this sum mainly by import duties laid, to a great extent, on goods similar to those which can be manufactured here; and that it results as a necessary incident of our settled fiscal system that there must be a large, and, as I believe, an ample advantage to the home manufacturer."

That sounds very plausible, does it not? but, after all, there does not seem to be that unanimity of opinion between Mr. Blake and Sir Richard as the former would have his audience believe. The latter gentleman takes a very different view of the case, and, in going over exactly the same ground, makes his argument particularly clear; very unlike the involved statement of his leader. Sir Richard says, "This Government must have revenue, because they are committed through no fault of their own to very formidable obligations, and gentlemen can see that if we put on a high tariff it reduces the revenue just in proportion as it affords protection."

Another part of Mr. Blake's speech to which exception may well be taken by Protectionists, as it undermines the whole of the hon. gentleman's previous and subsequent utterances, is that paragraph wherein he is reported to have said, "I then declared that any readjustment should be effected with due regard to the legitimate interests of all concerned. In that phrase [all concerned] I hope no one will object to my including, as I do, the general public."

Had not Mr. Blake and every prominent Reformer placed on record, time and again, their convictions that the National Policy was legalized robbery of the general public, no one could have objected to this little bit of special pleading, but the following quotations will, I think, prove that this very sentence affords Mr. Blake and the entire Reform party a wide avenue of retreat. Sir Richard's unalterable convictions are that the interests of the general public cannot be conserved as long as this outrageous and oppressive tariff is allowed to remain, and says: "As regards the great bulk of the people,

every day's experience has demonstrated its worthlessness." And again, to re-quote, "I must say that this Protection business, in which I do not believe in the slightest degree, in any shape or form, *looking upon it as a clear robbery* of the consumers, is being run into the ground."

Another statement of Mr. Blake's that merits criticism is, that "We have a deficit to overcome, and that done, we have a tremendous charge to overtake. 'Oh, but,' say some Tories, 'you can yet do this and make a free trade or non-protective tariff.' The statement is dishonest and absurd."

Neither dishonest nor absurd, Mr. Blake, although you include your own lieutenants in your sweeping denunciation for was it not Mr. Paterson (Brant) who stated from his seat in the House of Commons, on the evening of April 16th, 1886, that "if he [the Minister of Finance] wants money, as there is no doubt he does, it would be better for the people of Canada if he put the increased duty which he proposed to put on sugar, on tea and coffee." Such a staunch Reform paper as the *Montreal Witness* also rises to remark: "Mr. Blake knows that the tariff may be lowered and yet the revenue increased by the operation, while the taxation is lightened."

The points I have drawn attention to are but a few of those wherein there is such a lack of harmony between the *professions* of the leader of the Reform party and the *convictions* of his most prominent supporters; that not only manufacturers, but every Protectionist may well distrust the genuineness of such an eleventh hour conversion. I doubt not that on election day they will decide, like my friend the manufacturer with Reform sympathies, to cast in their lot with the party which has not yet faltered in the patriotic work of developing our material resources, for "A country which manufactures for itself prospers."

FREDERIC NICHOLLS,

Secretary of the Industrial League.

TORONTO, Jan. 31, 1887.

## A MANUFACTURER ON THE TRADE QUESTION.

(Written for this paper by an N. P. Reformer.)

MR. BLAKE, in his 1882 address, to which he still adheres in trying to remove the doubts of the manufacturing classes as to his friendliness, says: We have large obligations to meet, and it is impossible for us to lower the tariff to any great extent. We must get revenue, and that revenue must be raised to a great extent from goods similar to those made in the country, and that being the case you will have incidental protection enough. We must have revenue.

Well, how will he get the revenue? Stoves are made in the country, so are reaping and mowing machines, so are axes and edge tools, so are nails, and harvest tools, plows, wagons, buggies, wheels, carriages, coarse cottons, woollens and many other articles. Are these imported to any extent at present? No. Why? The tariff is too high; it is protective. But Mr. Blake says we must have revenue from these things, and to get revenue they must come in through the Custom House from outside. The tariff must therefore be lowered till they do come in. We will not put it any lower than that, because we need all the revenue we can get, but we will not have the tariff on anything so high that it will not yield revenue. We want no

protection for the sake of protection, as that is taxing the many for the benefit of the few.

Well, the tariff is lowered on all these lines till they can and do come through the Custom House, and pay duty and yield a revenue, and the more of them come in the larger the revenue, and that, of course, is the first consideration. But the more of them come in the fewer will be made, and if one quarter or one-half can and do come in, why not all? If the tariff is put low enough to let any in, then it is low enough to let all, and where are the manufacturing classes then? Mr. Blake simply proposes, and does not seem to know it, to wipe the Canadian manufacturers out of existence. A tariff for revenue is bound to do it. He says: "I am not a free trader; I cannot be a free trader. The necessities of the country preclude, and my opponents are doing me a great injustice in calling me so. Let us see what he is. He says, I will reduce the tariff" such a figure that the goods you manufacturers are now making for the supply of the Canadian market shall come in through Customs and yield revenue. Won't that hurt the manufacturers? Can the goods come through the Custom House and be made here too? Mr. Blake says, "They must come through the Custom House, as we must have revenue, but we will not let them come in free. We will charge all the goods will bear and still come in, and that will surely be sufficient protection for you—at least I am so informed by some of the moderate Protectionists." But what difference will it make to the manufacturers of Canada whether the goods come in under a moderately high tariff or absolutely free? If they come in they will not need to make them, and he will close their establishments just as efficiently under a revenue tariff as under an absolutely free one.

His proposition in plain English is a proposition to discriminate against Canadian workmen in favor of foreign workmen, and that even in cases where the consumer is getting the goods under a protective tariff lower than he could get them under a revenue one. Here is a case which is only a sample of hundreds of others where the duty has been placed high enough to practically exclude the foreign article. The home demand for axes is almost exclusively supplied by the Canadian manufacturer. Any American axes brought in are simply to meet isolated cases of demand by individuals who used certain brands years ago and are still prejudiced in favor of them, but they only come in small lots and full price is paid for them. Axes have been sold in the United States in 1886 at \$5.25 per dozen in lots of 1,000 dozen. In Canada they have been sold in lots of 100 dozen at that figure. The cost in Canada is not affected by the price in the United States, but by the home competition. If it were regulated by the U. S. prices the Canadian makers could get \$5.25 and 30 per cent. duty, equal to \$7 per dozen. Sir Richard Cartwright claims that they do, as his contention is that consumers pay the foreign price, plus the duty, on not only what come from abroad, but on all produced at home. That is the free trade theory; they call it a self-evident truth—according to Cartwright—and Blake endorses all he says.

Axes costing 5.25 in the United States will cost, with a duty of 30 per cent. added, \$7, therefore all axes used in Canada will cost the consumers \$7 and the manufacturers are assisted by the tariff to rob the consumers about \$1.75 per dozen. It can be proved that axes have been freely sold at \$5.25 per

dozen, so that theory and practice are, as has so often been pointed out, at variance. But the free traders in such cases say, "So much the worse for the facts." We say that under any revenue tariff that can be framed, consumers will pay more for them than under the present protective one. Mr. Blake will place the tariff on axes at such a figure as will admit of their free importation, because unless they can be imported they will yield no revenue, and revenue is his first consideration. Say that 15 per cent. will admit of their importation, and if 15 per cent. will not, he will place it at 12½ per cent. or 10 per cent., but 15 per cent. will do it. The wholesale merchant is getting axes now from the Canadian maker at \$5.25, because the Canadian is doing it all; but with the tariff lowered the Americans begin to put axes in quantities on the Canadian market, and the Canadian maker finds his trade reduced, and consequently he cannot make as cheaply—in other words, he is losing money, and losing money he loses heart and ultimately withdraws. The American manufacturer will not continue to sell any cheaper for the Canadian market than for his own. Having the Canadian market dependent on him he will charge at least regular United States prices. Taking the prices for 1886 as a guide he would charge per dozen.....\$5 25  
Canadian duty fixed for revenue, 15 per cent..... 0 78

Cost to Canadian wholesale merchant.....\$6 03  
On this the wholesale merchant would have his profit of say 12½ per cent..... 0 75  
Making the cost to the retail merchant..... 6 78

and correspondingly to the consumer. Under a protective tariff of 30 per cent. Canadian manufacturers have been selling axes during 1886, to wholesale dealers, at.....\$5 25  
Add wholesale profit 12½%..... 0 68  
Making cost to retail merchants.....\$5 93  
or, as can be established by actual sales..... 6 00  
a difference in favor of the retailer of 78c. per dozen, while Canadian men have had all the work to do.

A revenue tariff means a tariff whose object is to encourage the importation of goods made in foreign countries, and discourage the manufacture at home; and a tariff placed sufficiently low to admit of the importation of goods made in foreign countries will be a far more productive one for revenue than one placed so high as to stop importation, and cause home production. How, then, can any advocate of protection to home industries look with favor or toleration on a "revenue tariff," or be misled by the absurdity of "incidental Protection." Our markets are not large enough to be divided up between the foreign and home manufacturer, and even if they were the home and foreign manufacturer stand on such unequal footing that the result of such competition is invariably the crushing out of the home. Protection does not mean monopoly. It simply means—as has been pointed out hundreds of times—but it seems we must again go over the ground fully—that all who desire to obtain the run of the Canadian market must make the goods in Canada—no very onerous condition—and any one may do so. This is really as great a protection

to the Canadian workman as to the employer. The work must be done here, and they have the first chance. Under a revenue tariff the work would be done in England, France, Germany, or the United States. What chances have our workmen then? If they go where the work is done they must take the wages going there, or even less, for the introduction of idle Canadian workmen into any labor centre in any of these countries would have a strong tendency to lower wages there. How would our Canadian workmen like to hunt for work in England, France, or Germany, or even the United States, and what kind of welcome would they get from the workmen in those already overcrowded countries.

It will not do to say that the competition amongst the Canadian producers will cut up the market as much as the foreign competition. In the foreign competition the foreigner is bound to win, because his position gives him an advantage, when the tariff is simply revenue. He has only to get a return for the labor expended on, and the raw material used in, the article sent to Canada, but the home producer has all his expenses to get out of the articles he sells at home, this being practically his only market; and the price at which his foreign rivals are willing to sell fixes the price for all his production—But when the competition is all inside the country the competitors start on the same footing and terms—a free field and no favor. After that the best ability wins, and the country is getting all the benefits.

The cry of combination is pretty well played out. No combination can raise prices beyond a fair return for the capital invested, with the best management, nor prevent outside capital from coming in and upsetting it. Capital is so plentiful and finds such difficulty in getting good returns that it is always watching for a chance such as attempted artificial prices would give it. We hear from Free Traders, like Mr. Cartwright, a great deal about the enormous profits our sugar refiners are extracting from the pockets of the Canadian people. There is no monopoly in the hands of the present refiners. Why don't these Free Traders, who assert the truth of these enormous profits, if they believe them, go in and get a share thereof, or relieve a long-suffering people by reducing them. Do they believe them? If so how do they account for the many difficulties and failures in the sugar refining business. Bad management? Well refineries have been lately offered at much below the original cost. Why have not some of these men taken hold of them and practically illustrated how they should be run, and how much cheaper sugar could be sold and still leave a fair profit to the refiner. They cannot say they could not get the capital, nor that manufacturing is not in their line. They found lots of capital for cotton mills, and, if reports are correct, have displayed considerable ability in running them.

#### AN IMPORTANT MEETING OF MANUFACTURERS.

THE largest and most representative meeting of manufacturers ever held in the Dominion gathered at the Queen's Hotel on Tuesday, by invitation, to listen to Sir John Macdonald's exposition of the state of the country in general, and of the fiscal policy of both political parties. The meeting was called

to order at 2.15 p.m., the following gentlemen having been requested to preside:—W. H. Storey, Acton, chairman; Edward Gurney, Toronto, vice-chairman; Fred. Nicholls, secretary. The meeting was held in the billiard-room of the Queen's Hotel, the tables having been removed for the purpose.

The entrance of Sir John was the signal for an outburst of enthusiasm, long continued. Hon. Thomas White and Hon. J. Carling were also present. The meeting was addressed by W. H. Storey, Acton; E. Gurney, Toronto; Sir John Macdonald. Hon. Thomas White, Wm. Chaplin, St. Catharines. Senator McInnes, Cornwall; Geo. Figgott, Bowmanville; and others. Sir John was in his happiest vein and made a stirring address, which was cheered to the echo.

The following resolution was unanimously carried by a standing vote:—

*Resolved.*—"That this meeting of manufacturers and millers, representing almost every branch of industry and every section of the Province of Ontario, hereby places on record their unanimous opinion that on the maintenance of the National Policy depends the continued prosperity of Canada; and that its maintenance can only be assured by a return of the Liberal-Conservative party to power on the 22nd inst., the tariff policy of the Reform party being involved, uncertain and indefinite."

Those present at the meeting represented a total capital of about thirty-five million dollars invested in various manufacturing industries, and which, in the aggregate, is giving employment to many thousands of skilled and unskilled mechanics and operatives. The manufacturing interests of Canada will be solid for Sir John's Government.

#### NO PRISON LABOR.

*Editor World.*—The *London Advertiser* of a recent date said: "During the local election campaign the Tory organs were filled with denunciation of prison labor. Why do we not hear something about the manufacture of boots and shoes at the Kingston Penitentiary?"

As the paragraph was evidently published by the *Advertiser* for the purpose of misleading such of the electorate as may read that paper, I have received information which enables me to give the statement an unqualified denial, and will be obliged by your giving insertion to the following memo. from the Inspector of Penitentiaries to the Hon. the Minister of Justice:—"The only boots and shoes made at the Kingston Penitentiary are those made for the use of the institution. None whatever are made for outside market. Jas. G. Moylan." The public are reminded that not only has the Dominion Government done away with prison labor in such institutions as come under their control, but have entirely shut out from this country the products of foreign prisons, as witness the following from the tariff resolutions of 1885: *Resolved.*—"That it is expedient to prohibit the importation to Canada of all goods manufactured or produced by prison labor, or which have been made within, or in connection with, any prison, jail, or penitentiary, and to attach a penalty to any such importation."

I may add that the products of the Central Prison, Toronto, an Ontario Government institution, are still allowed to displace the products of free labor. **FREDERIC NICHOLLS,**  
TORONTO, Jan. 29. Secretary Industrial League.

It seems that Lieut. Greely believes in the theory that there is an open sea, some 1,500 miles in diameter, round about the pole, that never freezes, the conjecture being that the pole itself is the centre of an ice-capped land, covered with ice from 1,000 to 4,000 feet thick.

## Literary Notices.

"GRIP'S" CARNIVAL NUMBER.—This, the publishers say will be the finest publication ever issued from their establishment. The special features will be cartoons in five colors with gold borders, the double-page centrepiece being one of J. W. Bengough's finest and funniest concepts. Subscribers to *Grip* get this Carnival number free; to others the price will be ten cents. It will be dated February 12th. Get it. Address *Grip*, Toronto.

"THE NEW SOUTH" is the title of a handsome monthly, published in the rising iron centre of Birmingham, Alabama, and devoted to Southern interests in general, and to the great industrial movement recently begun in that region in particular. The following from a recent number shows what confidence it has in the future of the "Magic City," as it has been called.

"A prominent gentleman in an adjoining State purchased a lot in this city last July, for which he paid \$6,000, in a few weeks there after he accepted an offer for it of \$10,500, and the same lot was sold soon after for \$12,000. Meeting him recently we expressed surprise at his selling when prices were steadily advancing. He replied that he could not see how such values could be maintained; that they had reached a point that would require a population of one hundred thousand to keep up. It is this mistaken idea about the future of Birmingham that has caused many to lose thousands of dollars by selling too hastily. The population of Birmingham is just as certain to reach one hundred thousand within four years and two hundred thousand within eight years, as that the seasons will come and go. The manufacture of steel, which will take great proportions here within a twelvemonth, and the completion of the Kansas City, Memphis & Birmingham and other railroads now coming, will give such an impetus to the growth of the 'Magic City' as was never before witnessed in this country."

We believe the people are all Protectionists down there now, the rise of important home manufactures having revolutionized public opinion.

THE "earth-shine" which we see on the un-illuminated part of the new moon is a reflection of sunlight from the earth, which is then at the "full" as seen from the moon. The apparent diminution in size of the dimly illuminated part is due to an optical illusion known as irradiation.

THE United States Senate has ratified a treaty with the King of the Hawaiian Islands by which the free introduction into the United States of the sugar of those islands is guaranteed for seven more years. The California Senators voted for the treaty. An amendment to the treaty was adopted which provides for certain naval privileges to be enjoyed by the United States in the Pearl River Harbor of the island of Oahu. The advantages to be derived by a naval station in the Pacific Ocean are both of a political and commercial character. It is doubtful whether the King will accept this amendment; if he declines the treaty falls.

EXPERIENCED wood workers have always contended that a glue joint, properly done, is stronger than the wood itself. And yet joints often give way at the surface where the glue is used, which is accounted for by bad material. A similar reason is frequently the true cause, which few artisans wish to acknowledge. It is merely that skill is lacking. In gluing wood, it is asserted by competent authority, bad work is produced by applying glue to both surfaces. A good job is secured by applying the glue hot, but not extremely so, to one surface, which should be cold, while the other surface should be heated at the stove, but should have no glue upon it. By this method the glue will permeate the wood and bind the surface together firmer than nature binds the fibres.

THE  
**Canadian Manufacturer**  
 AND INDUSTRIAL WORLD.

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*Secretary Canadian Manufacturers' Association.*

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Editorial Notes.

In his election address of 1882, and again in his Toronto speech of October, 1886, Mr. Blake said:—

"We expressed our views last session (1882) in four motions, which declare that articles of such prime necessity as fuel and breadstuffs should be free; that the sugar duties should be so adjusted as to relieve the consumer from some part of the enormous extra price he is now liable to pay to a few refiners; that the exorbitant and unequal duties on the lower grades of cottons and woollens should be so changed as to make them fairer to the masses, who now pay on the cheapest goods taxes about twice as great in proportion as those which the rich pay on the finest goods; and that the duties on such materials as iron, which is in universal use, should be reduced, so as to enable the home manufacturer, to whom it is a raw material, to produce a cheaper article for the benefit of his home consumer and the encouragement of his foreign trade."

On January 22, 1887, at Malvern, in East York, he said, or read:—

"As I shall show you presently, it is no part of the duty of a man in opposition to frame the details of a tariff, and if I depart even a little from that line for a moment, and express an opinion on one detail, it is only because in 1882 a specific proposal was made. I may say, then, that my personal opinion is that we should at all risks dispense with the odious and heavy tax on corn flour, upon which certain of the poorer classes in the East, who cannot afford wheat flour, are actually obliged to pay a heavier tax than their richer neighbors pay on their superior food. *But as to wheat and wheat flour I think that the changed conditions point rather to a reduction of duties, with a readjustment of the disproportion between the tax on wheat and that on flour, than to a total abolition; and so of coal.* Therefore it was, that being unable to promise anything which I did not see my way to perform, I spoke of 'lightening,' of 'reducing,' rather than of abolishing this class of taxation."

In 1887 he surrenders what he had held and stood by for five years before at least—that "articles of such prime necessity as fuel and breadstuffs *should be free.*" Now he says that the duties on these necessary articles should merely be reduced, not abolished. Here he gives up the essential point, and this has very properly been called Blake's surrender on the N.P.

MR. BLAKE next objects to the sugar duties, in saying that our people pay more for sugar because of them. True, but that is because of revenue necessities, and not because of protection to home refiners. For were the principle of Protection thoroughly carried out as regards sugar, there would be very little revenue collected on that article at all. All sugars and syrups fit only for refining would come in free, raw sugars fit for use as they are would pay moderate duties, while on refined sugars the duties would be so high as to be prohibitory. Here we avail ourselves of the reply made by Mr. G. A. Drummond of Mont. real to Mr. Blake's mistaken assertions:—

All Manufacturers are invited to become members of this Association. Full particulars will be furnished on application to the Secretary.



"Taking the accusations as he makes them, I assert that each and everyone of them is practically untrue.

"1. It is not true that sugar is inordinately high compared with England, for, after deducting the duty paid by the Canadian refiner to the Customs, sugar is actually at this moment, quality for quality, cheaper in Montreal than in London.

"2. It is not true that sugar is dearer in bond here than in New York; for it is, on the contrary, a fact that there is a smaller difference or margin between raw and refined in Canada than in New York, and deducting the same relative drawbacks for duty paid, sugar is cheaper here than there, either in the open market or in bond.

"3. These facts being so, the preposterous assertion about \$2,000,000 being absorbed by the refiners falls to the ground—no wilder statement was ever made, or one so obviously contrary to facts.

"It is notorious that the public is getting the full benefit of the cheapness of the commodity. Is there a man or woman in the Dominion who does not know that sugar is cheaper and better than ever before in his or her experience, notwithstanding the large tribute it yields to the public revenues?"

As regards the duties being higher according to value on common wearing goods than on the finer and more expensive, the answer is that only the former kinds of goods can be made in a new country. A high duty on broadcloth, and laces, and muslin would not help Canadian manufacturers much, for the reason that such goods are not made here at all. But in a matter of this kind experience is better than theory. Our duties on woollen goods, of the kinds most used, are  $7\frac{1}{2}$  cents per lb. and 20 per cent., while the American duties on similar goods are 40 cents per lb. and 35 per cent. on the value. On some classes of such goods the American *specific duty* is 30 cents per lb., and on others 50, but 40 cents per lb. is rather below the average, and remember that the 35 per cent. *ad valorem* applies to all. Now compare that with our duties of only  $7\frac{1}{2}$  cents per lb. and 20 per cent. Naturally a free trader would say that clothing for working people must be enormously dearer over the way than in Canada. But what we find to be the fact is, that goods to suit working people are so cheap in the States, that merchants in Buffalo and Detroit sell largely to Canadian customers, although the duties there are three or four times what ours are. This is one instance of how free trade theories are "knocked out" by hard facts.

THE duties on iron should be reduced, says Mr. Blake; we want cheap raw material, so that we can manufacture cheaply. Well, in the States the duties on iron are far higher than they are here, and yet iron and all kinds of iron goods are cheaper there than in Canada. In spite of the high duties which our neighbors put upon imported iron, we buy lots of American iron for use in Canada; iron being actually cheaper in the country having very high protection than it is in the country having low protection. Again we see the free trade theory "knocked out" by the facts.

SEE on page 80 an interesting statement, from a good financial authority in London, of the amounts paid as steamship subsidies by the Imperial Government to encourage foreign trade.

THOSE who argue that Government can do nothing to help legitimate trade had better "read, mark, learn, and inwardly

digest" the following, which is from an American paper of recent date:—"Pennsylvania has a law, passed a year ago, which entirely prohibits the manufacture and sale of oleomargarine within the limits of that State. The dealers have been fighting the law in the courts, and the final decision of the State Supreme Court is that the law is constitutional. Eight wholesale houses in Pittsburg that had taken out the semi-annual license from the United States Government, and paid \$240 each for it, have promptly discontinued the sale of oleomargarine. Two large oleomargarine factories that have been at work until now have closed."

THE indications are, says an American contemporary, that Manitoba will become the great flour producing territory of the Canadian provinces. The *Montreal Journal of Commerce* says that a mammoth flouring mill is soon to be commenced at Koo-watin, Manitoba, which is the beginning of a movement that will in time make this locality the Minneapolis of the North-West. The principal mover in the concern is Mr. Alexander Mitchell, of Montreal. The mill will have a capacity of ten thousand barrels per day. In connection with it is to be built a huge elevator with a capacity of one million bushels of wheat. To all which let us add this remark, that now seems to be the time for us to hang on to the N. P., and to sustain in power the men who are its true friends rather than let them give place to men whom we know to be its enemies.

THE following brief statement of a business man's opinion we find in the *World*:—"I do not wish to pose as a prophet," said a well-known business man, recently returned from the east, to the *World* last night, "but I am convinced that Sir John Macdonald will have a good working majority after the elections. In New Brunswick Alexander Gibson, who controls the railways and wields great influence, will support the Conservatives, and promises them three seats that went against them before. The Burpee influence is also with the Conservatives, and that means a great deal. In Nova Scotia the adherents of Sir John will hold their own and will secure a slight gain in Prince Edward Island. Although the political troubles in Quebec have looked very ominous to the Conservatives, recent events have somewhat changed the complexion of affairs, and though their majority will be reduced there it will not fall off so much as is expected. West of Quebec Sir John will carry everything before him. The only seat the Reformers can count on in Manitoba is Marquette, where Watson may be returned. This may be considered a bold forecast of the result, but wait and see if it does not come out that way."

#### AMERICAN PATENTS TO CANADIAN INVENTORS

THE following patents were granted to citizens of the Dominion of Canada, bearing date Jan. 25th, 1887. Reported expressly for this paper by Louis Bagger & Co., mechanical experts and solicitors of patents, Washington, D.C.

Hickley, A. S., Montreal, Que., manufacturing amalgams by electrolysis.....	356,640
Martin, Charles, Toronto, Ont., match-making machine.....	356,485
Nosworthy, James, Belleville, Ont., cartridge-belt.....	356,493
Ripson, J. F., Toronto, Ont., car-coupling.....	356,663
Ross, J. F., Toronto, Ont., soldering machine.....	356,790
Wilson, H. W., Kingston, Ont., fence-post.....	356,517

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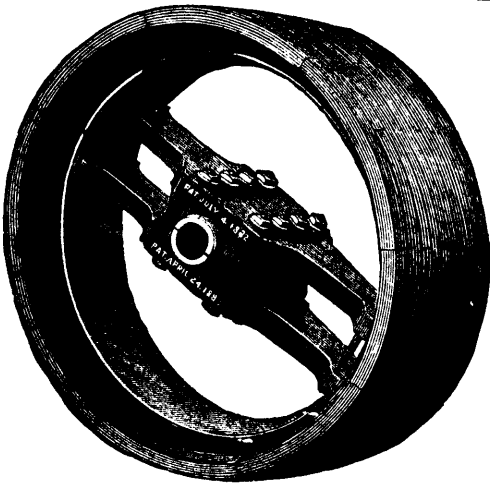
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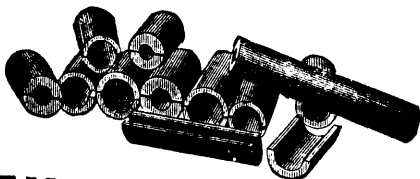
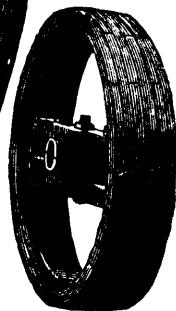
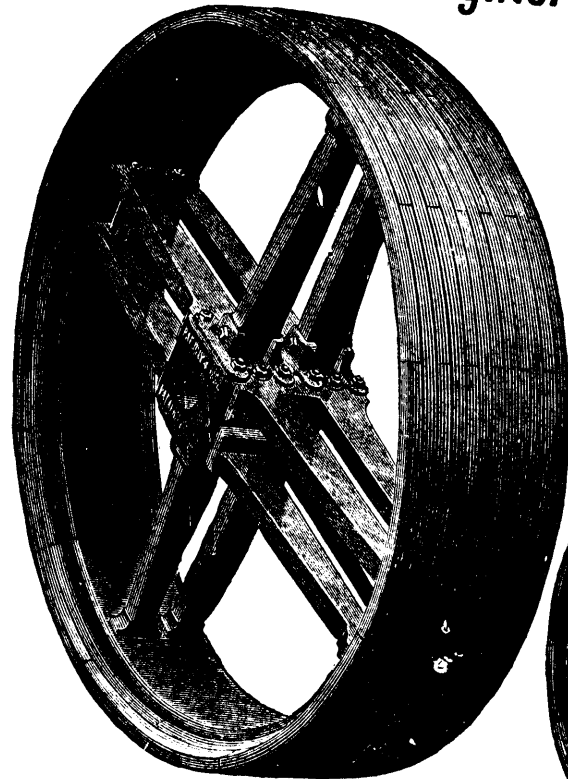
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 SHATTO & DENNIS, MINNEAPOLIS, MINN. STILLWATER, MINN., August 15, 1884.  
*Gentlemen:* You ask why we use the Dodge Patent Pulley. I answer because we consider them the cheapest, most convenient and satisfactory in all particulars.  
 Yours truly,  
 S. R. STIMSON, General Manager.

**OFFICE OF NEWTON WAGON CO.,**  
 C. L. RICE, AGENT, CHICAGO, ILL. BATAVIA, ILL., Feb. 17, 1885.  
*Dear Sir:* Replying to your favor, will say that after using the Dodge Wood Split Pulley for a year or more we are satisfied they are a good thing, if not the best Pulley made, and shall use them hereafter in preference to any other we know of.  
 Yours truly,  
 NEWTON WAGON CO.

We have sold these pulleys for one year, and they have been put to every kind of service, and their popularity is wonderful. We refer to the following users for proof of the above statements: Pillsbury & Hulbert Elevator Co., Minneapolis; R. M. Pratt & Co., Elevators; Northern Pacific Elevator Co.; The Pacific Elevator Co.; Minneapolis Harvester Works; Minneapolis School Furniture Co.; M. & St. L. R. R. Co.; Willford & Northway; Washburn, Crosby & Co.; St. Paul Electric Light Co.; St. Paul Roller Mill Co.; Minneapolis Brick Co.; N. W. Mfg. & Car Co., Stillwater, Minn., and very many others.  
 SHATTO & DENNIS, MINNEAPOLIS, MINN.

**THE WORLD'S INDUSTRIAL AND COTTON CENTENNIAL EXPOSITION,**  
 W. H. DODGE, PREST. DODGE MFG. CO., MISHAWAKA, IND. NEW ORLEANS, MARCH 19, 1885.  
*Dear Sir:* I have a number of your Patent Wood Split Pulleys in use here at the Worlds Fair and Cotton Centennial Exposition, driving Dynamos for Electric Lighting. They are doing heavy work, and are held upon the shaft by the compression of wood on iron. They hold firmly, and do not slip. I have watched with a great deal of interest the many Pulleys of your make running at this Exposition; and I think them the best Pulley I have ever seen. I believe them to possess the following points of merit over any other Pulley: All Pulleys being split or in halves; best belt surface; best shaft fastening; best method of utilizing Pulleys to shafts of different sizes; best balance; lightest on the shaft; strong, and I believe durable. I heartily recommend them.  
 Yours very truly,  
 S. H. GILMAN, Chief Consulting Engineer.

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According to the best scientific authority it costs one horse power to keep in motion one ton of metal or weight; thus for every unnecessary 2,000 pounds weight on your line shaft, cost you one horse power. To maintain a horse power costs from \$25 to \$125 per year. Any manufacturer who will take the pains to investigate the unnecessary weight by Heavy Iron Pulleys, too tight belts, etc., will be surprised to find the enormous waste of power consumed in this manner. 40,000 Dodge Patent Wood Split Pulleys now in use. Our capacity being now equal to 100 Pulleys per day, we shall hereafter keep in stock for immediate shipment all sizes.

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THE BUSINESS OUTLOOK.

(From the Indianapolis Millstone.)

In order to properly understand and appreciate the basis on which international commerce, and our own in particular, rests, at the commencement of the new year, we shall have to cast a short retrospective glance at the course of values during the one just brought to a close.

COURSE OF PRICES OF LEADING ARTICLES AT NEW YORK—1886.

	Jan. 1.	Oct. 1.	Dec. 31.
Antimony, Cookson's.....	9 $\frac{1}{2}$	9 $\frac{1}{8}$	9 $\frac{1}{8}$
Coal, anthracite.....	\$3.50	\$3.75	\$3.75
Cocoa, Guyaquil.....	16 $\frac{3}{4}$	13 $\frac{3}{4}$	13 $\frac{5}{8}$
Coffee, fair Rio.....	8 $\frac{3}{8}$	11 $\frac{1}{4}$	14 $\frac{3}{4}$
Copper, Lake Superior.....	11 $\frac{1}{2}$	11 $\frac{1}{4}$	11 $\frac{7}{8}$
Cotton, Middling upland.....	9 $\frac{3}{16}$	9 $\frac{7}{16}$	9 $\frac{7}{16}$
Flour, extra state.....	\$3.25	\$3.00	\$3.75
Wheat.....	95	85	95
Indian corn.....	48	46 $\frac{5}{8}$	48
Hemp, manila.....	8	8	8 $\frac{1}{8}$
"    sisal.....	4	5 $\frac{3}{4}$	6 $\frac{1}{2}$
Hides, Buenos Ayres, dry....	22 $\frac{1}{2}$	20 $\frac{3}{4}$	20 $\frac{1}{2}$
Hops, choice state.....	11 $\frac{1}{2}$	21	26
India rubber, fine Para.....	61 $\frac{1}{2}$	83	76
Iron, American pig.....	\$18.25	\$18.75	\$20.50
Steel rails.....	34.50	34.50	36.00
Lead.....	4 $\frac{5}{8}$	5 $\frac{1}{2}$	4 $\frac{1}{4}$
Spirits of turpentine.....	38	37 $\frac{1}{4}$	36 $\frac{1}{8}$
Nitrate of soda.....	2 $\frac{3}{8}$	2	2
Potatoes.....	\$2.00	\$1.75	\$1.75
Petroleum, refined.....	7 $\frac{3}{4}$	6 $\frac{3}{4}$	6 $\frac{3}{8}$
Black pepper.....	16 $\frac{2}{8}$	16 $\frac{2}{8}$	17 $\frac{3}{4}$
Butter.....	32	28 $\frac{1}{2}$	27
Lard.....	7	6 $\frac{1}{4}$	7
Sugar, fair refining Cuba.....	5 $\frac{1}{2}$	4 $\frac{1}{8}$	4 $\frac{2}{8}$
Tea, Oolong.....	18	18	20
Tin, Straits.....	20	22 $\frac{1}{2}$	22
Wool.....	18	21	23
Spelter.....	4 $\frac{3}{8}$	4 $\frac{3}{8}$	4 $\frac{5}{8}$
Rice, prime domestic.....	5 $\frac{7}{8}$	4 $\frac{3}{4}$	4 $\frac{1}{2}$

If we except hops among domestic products, and coffee, and India rubber among those of the tropics, furthermore wool, more particularly grown in the temperate zones here and elsewhere, it will be found that the value of merchandise has risen but little in 1886, and that raw produce as a whole is still remarkably low in price, that consequently the basis which underlies commerce and manufactures may be called decidedly sound. There is consequently room for improvement without exposing dealers and consumers to the risk of suddenly receding values except, perhaps, in a few articles inflated by speculation, like, for example, coffee.

While as a general thing the basis may be called safe, therefore, the outlook on both sides of the Atlantic is brighter than it has been during the past four years. The dreary period of continually depreciating raw material through overproduction has terminated, both dealers and consumers feel encouraged to once more anticipate requirements and replenish stocks without the fear of repeated losses on what they hold, but a fair prospect of promising times. Silk and wool inaugurated this happy change, and the textile branch has recommenced to flourish since, both in the United States and Europe, even in jute, which has lain prostrate so long.

LOCAL TARIFFS.

(Philadelphia Industrial Review.)

WHILE the policy of the United States has been to protect our industries against foreign competition, there has always been perfect Free Trade within our borders. As a result of the free competition thus rendered practicable, the argument that

our tariff fosters monopolies is without a basis in fact. What is to hinder any man with sufficient capital, or any combination of capitalists, from going into the manufacture of cotton, woollen, or silk fabrics, or from taking up any of the iron or other industries?

In this country, at least, we are happily free from local tariffs on certain trades, such as are referred to in the following paragraph, taken from an exchange:—

"Local duties upon articles of consumption seem to be assessed and collected in most parts of the world. A well-known writer in this country has gone into hysterics about the enormities of such duties in Mexico, but he will find equally flagrant examples in Free Trade England, which is the object of his special admiration. London has for an indefinite period raised upon the coals consumed by its people a revenue averaging annually \$2,645,695 during the past five years. The right to raise it expires in 1889, and the municipal authorities, by way of an argument for an extension of the right, show that other English cities have long enjoyed it. They give a list of fifteen cities, whose aggregate annual revenue from taxes on coal is \$210,300. Octroi duties are common all over the continent of Europe, notably in Paris. In India, they are as ancient as its present civilization. But that they should exist in England, where political economy is claimed to have been brought to the perfection of an exact science, is most remarkable."

CURRENT NOTES.

(From the Boston Manufacturers' Gazette.)

THE volume of business in the boot and shoe trade has increased the past year more than \$5,000,000, and in the number of packages 250,000. This does not look like a declining manufacture in New England. Owing to the heavy competition, the profits have been lighter, and the increase in business followed, in many instances, in only nominal gains. A conservative movement among the manufacturers this year will be a popular one.

IN Massachusetts, as in New York, voluntary arbitration in matters of dispute between employer and employé appears to be a failure. The indications are that the disinclination to resort to arbitration is stronger among the employers than among the men. The former more frequently declare that they "have nothing to arbitrate," and the majority of the arbitration decisions have been in favor of the men. Compulsory arbitration is out of the question.

AS AN evidence of the agricultural depression in England, it is said that one of the largest farms in the island has been put upon its owner's hands by a tenant who last year paid only £1, or \$5, per acre, and this year was offered the land at 50 per cent. reduction, but dared not take the responsibility. Guy's hospital in London has long had its funds invested in farms which, for a hundred years or more, yielded a revenue of £41,000. This revenue has fallen to £26,000, and the usefulness of the great charity is much impaired at a time when presumably its best efforts are needed.

PENNSYLVANIA has a law, passed a year ago, which entirely prohibits the manufacture and sale of oleomargarine within the limits of that State. The dealers have been fighting the law in the courts, and the final decision of the State Supreme Court is that the law is constitutional. Eight wholesale houses in Pittsburg that had taken out the semi-annual license from the United States Government, and paid \$240 each for it, have promptly discontinued the sale of oleomargarine. Two large oleomargarine factories that have been at work until now have closed.

### PUTTING UP A PULLEY.

(From *Power and Transmission, American Paper.*)

THE boys were putting a 36" x 10" pulley up on the line shaft the other day at noon, and I stopped for a few minutes to look at them. The length of shaft where the pulley was to go, had a coupling at each end of it, and there were four other pulleys between the hangers already, and some of them looked as if they were there to stay. There was no scaffolding under the shaft, but Jim went for a ladder, and by the time he had it up against the shaft, Sam came up stairs with half the pulley upon his shoulder. The hole in the pulley looked a good deal larger than the diameter of the shaft, but Sam had a semi-cylindrical piece of wood in his hand which he passed up to Jim first, and then he handed up the half pulley to Jim, who was up on the ladder. Jim placed the piece of wood, which I now saw was a bushing, on the shaft, and held it there while Bill helped him lift the half pulley up over the shaft, and then let it down on the bushing, which just fitted the hole in the pulley.

In the meantime Sam had returned with the other half of the pulley, which had its half bushing already placed in it, and while Jim steadied the upper half of the pulley on the shaft, Sam and Bill held the lower half up to its place. In a few minutes the two halves were bolted together, the ladder was taken away, and the pulley had its belt on it, ready for business.

The whole operation timed just fifteen minutes. Not a pulley on the shaft was moved, and not a coupling disturbed, and the whole thing was done so quickly and quietly that hardly any one noticed it.

Of course the pulley was one of the Dodge wood split pulleys. If it had been one of the old-fashioned sort, in one piece of cast iron, Sam would scarcely have tried to carry it up stairs single-handed, and I would hardly have waited to see the job completed.

The floor would have been cleared, and a firm scaffold erected, and then would have followed more or less time separating coupling, moving old pulleys, and general confusion. The line shaft would have been stopped for several hours, and the whole affair would have cost more than the new pulley was worth.

After the job was done and the men had gone away, I wondered to myself how it was that pulleys had not been made in this way long ago, and it seemed that it could hardly be possible that men could continue using the old system much longer in the face of the convenience and economy of the new.

H. H. SUPLEE.

### SHALL WAR TAXES CEASE?

(*Bulletin of the Philadelphia Textile Association.*)

A CRY has been raised for the repeal of the "war taxes." We have shown elsewhere that at present we are paying a less rate of duty than was frequently paid before the war; hence, the charge that our tariff is a "brutal" legacy of the war, not to be tolerated, is not true. But these internal taxes are a war legacy. They were a war measure, and as the necessities which called them into existence have long since ceased to exist there is no sufficient excuse for their continuance. They are war taxes, and should be repealed.

Did the taxes on whiskey effect anything in the way of preventing either its manufacture or its use we should be one of the last to advocate its repeal. But it accomplishes neither. We grant that, if the revenue from this source was needed, the article taxed, being a luxury, it might very properly bear this burden. But the National Government does not need this revenue; the state governments, which have to bear the burdens which this article entails, do need any tax which may be collected upon it, and it should be left to them to levy it; and, if any of these should choose to make it so heavy that both its manufacture and use shall be greatly lessened within

their borders, so much the better. We all know that it entails fearful burdens upon any community which allows its use. Then let these same communities roll back upon it the burdens which it imposes.

It is certainly not too much to hope that Congress may repeal these taxes.

### LUMBER COMBINATIONS.

THE Chicago *Northwestern Lumberman* expresses itself very forcibly, as follows:—"The value of a commodity does not depend on combinations to 'put up prices,' though that seems to be an idea extensively prevalent. The yard dealers in this city are finding out that prices can become steady and firm, and even rise, without any trade meetings or 'official' price list. Prices are now steadier than they have been for the past two years, and they are also higher for common lumber than they were until late the past fall. The improved condition has not resulted from combination of dealers, but by natural trade forces. Whenever there is ground for holding stocks firmly for good prices the trade becomes aware of it without being informed by any exchange or board of trade committee. This fact does not imply that trade should not be fully organized in each locality. Meetings for discussing existing conditions should be frequently held. In case any marked change is developing in trade, it is well for the fullest information and exchange of views to be had on the subject. But it is near futile to attempt to create a fictitious value for lumber by combination. In all the territory this side the Rocky Mountains competition is too sharp to admit of successful union of dealers for the control of prices."

### A NEW THEORY FOR THE ORIGIN OF COAL, ETC.

M. DE GRAND very boldly advances a brand new theory of coal formation, which, a French journal points out, is opposed to the idea that large trees and shrubs produce the black fuel. A calculation, he maintains, of the accumulation of trees, etc., necessary for the conversion into even a thin coal bed, of a forest suddenly buried under water, or gradually letting its residue gather on the ground, leads to an evidently erroneous result, so greatly is it necessary to exaggerate either the mass of vegetable matter or the duration of the process of coal formation. He considers that the coal beds were formerly beds of naphtha and bituminous petroleum, produced by the decomposition of inferior aquatic vegetation under the influence of heat and dampness. This theory also, he thinks, will serve to explain the formation of petroleum, asphalt and other bituminous springs.

THE *Montreal Herald* of Jan. 31, in its review of the whole-sale trade for last week, says:—"The dry goods trade was particularly quiet, but travellers on the road report stocks in the country low, and some good orders for spring lines have been received. The trade are just now opening out their spring goods, and there is no reason to believe that anything like over-trading has been indulged in, and in this branch of the whole-sale trade are particularly hopeful of the future. In cottons not much is to be said, a healthy feeling continues among manufacturers, and all seem profitably employed. The Canada Cotton Company's mill, which was the sufferer by the recent unexpected floods in Cornwall, hope soon to be in full running order, and to fill all their orders with a very slight delay."

DR. JAMES DAVIES states, in the *Therapeutic Gazette*, that the Druidic college of the twelfth century considered tannin the most potent of all the products of nature in producing sterility, and that tea drinking, as practised by the public, undoubtedly acts in the same direction.

# Iron and Machinery.

## A WEEK'S SUMMARY OF LARGE ENTERPRISES JUST BEGUN.

THE following shows how new enterprises expand and prosper under the high protection which prevails in the neighboring Republic:—

St. Louis, Jan. 28.—The great business boom in the South and Southwest continues without abatement. *The Industrial Gazette*, in its weekly summary of new enterprises, notes the incorporation at Louisville of the Kentucky and Arkansas Land and Industrial Company with a capital stock of \$2,500,000. The Chattanooga Steam Forge Company, the largest in the South, has purchased a site in Chattanooga and will erect mammoth buildings for their machinery at once. Laredo, Tex., is to have large smelting works, and San Antonio a large refrigerator; a fine vein of coal has been discovered at Lampasas, Tex., and will be developed at once. A large bed of iron ore has been discovered in Sebastian County, Arkansas, near Fort Smith. Birmingham, Ala., is to have an electric street railway, and is the headquarters of the Peacock Coal, Iron and Improvement Company, organized January 20th, capital \$200,000, to develop coal land on the Georgia Pacific Railway. Nine hundred thousand dollars of the Selma Land Improvement and Furnace Company's stock was taken January 22. Montgomery subscribed \$200,000 in two hours on January 22 for the erection of a pipe foundry with 300 tons daily capacity. The Warrior Coal, Iron and Land Company was organized January 21, at Northport, with a capital of \$500,000. A. G. W. City, of Cleveland, Ohio, will move his bridge plant to Birmingham, where four squares of ground have been secured. The works will be known as the Birmingham Iron Bridge and Forge Company; capital \$250,000, and the largest in the country. The Decatur Mineral and Land Company is now being organized with a capital of \$350,000.

For the week ending January 23, Government land at \$1.25 per acre, to the amount of \$5,350,000, was sold at the Montgomery land office. The largest single land transaction ever made in Alabama was made January 21 by the Tuscaloosa Iron and Land Company purchasing 63,000 acres of coal land, which will be developed at once. Four furnaces, a hotel and a coal and coke company have been located at Florence within a week, with capital aggregating \$1,000,000.

A RECENT writer in the *American Machinist* goes for the fusible plugs in boilers. He says that they will by action of heat become hard and fail to melt, and that they sometimes become covered by mud and melt slowly, when some one is hauled up for carrying low water.

It is said that the more rapid deterioration of much of the iron of a late make arises from the fact that it contains more impurities than formerly. The common iron of to-day is filled with slag, and looks coarse and fibrous when rusted or worn. Fifty years ago the iron made in the United States was largely charcoal iron, and was much purer and better than the same grades made at the present day.

REPORTS from Pittsburg show that mottis, a mild steel is rapidly taking the place of Swedish iron in industries where this iron has heretofore been principally used. These industries are mainly the making of bars, rods, tack and small nail plate, shovel plate, hoop plate and the like. Swedish iron costs, laid down in this country, about \$75 per ton, while American Bessemer blooms and billets are quoted at \$55 and the foreign article even a shade lower.

It is often observed that iron of recent make rusts and wears away much more rapidly than samples made forty or fifty years ago. The more rapid deterioration of much of the iron of a late make arises from the fact that it contains more impurities than formerly.

The common iron of to-day is filled with slag, and looks coarse and fibrous when rusted or worn. Fifty years ago the iron made in the United States was largely charcoal iron, and was much purer and better than the same grades made at the present day.

A BOILER furnace in combination with a grate, bridge-wall and smoke-chamber is a newly patented invention. There is a pivotally-suspended rear-plate, providing the only communication to the smoke-chamber from under the grate, which latter is provided with a rod for swinging it rearward. An air-channel through the base of the furnace communicates with the gas-duct through an opening directly below and opposite the dependent plate, which channel is furnished with a valve to regulate the admission of air.

THE English manufacturers of steel rails are in the worst kind of humor over the placing of a large order for railway material with their German competitors. The agents of Kerr Krupp, whose works are at Essen, Germany, have secured a contract from the Government of Victoria—a British colony—for 50,000 tons of steel rails, together with the necessary fastenings. The total sum of the contract is about \$1,288,000. The Victorian railway authorities already have extensive business relations with the Essen works. If their requirements cannot be supplied within the Colony, then "the world is their parish," and they buy as readily from the Continent of America as they do from Great Britain.

A RECENT decision by Judge Magie, of the New Jersey Supreme Court, is of considerable interest to barb wire manufacturers and the consumers of their product—the farmers. If the decision is good law, and is generally accepted as a precedent for the settlement of like suits, the general use of barb wire will be discouraged. The New Jersey judge's decision was rendered in a suit for damages brought against a New Jersey farmer, from whose barb wire fence a fine colt received injuries which resulted in its death. The decision holds that any fence which is likely to injure animals under like circumstances (running in pasture in an adjacent field) is an unlawful structure. The issue will, in all probability, be fully tested by barb wire manufacturers, who have much to lose should the decision hold. — *Industrial Gazette*.

AN item which we publish in our "Manufacturing Notes" shows that nearly one-fourth of all the locomotives made at the Baldwin Works in the last ten years have been exported, over 900 out of a total of 4,000. As a representative of these works very pertinently remarks, "there is no more convincing reply to Free Traders" than this statement. The Baldwin locomotives get these markets by reason of the superiority of their engines, as well as because the price is lower, and both of these results are obtained without paying the low prices for labor that obtain in the English shops. It is in this direction that we must look for export trade, superior work at the same or less prices, the result of better labor, better appliances and better methods. Such trade will be dearly bought if it is the result of lower tariffs and reduced wages. — *American Manufacturer*.

HYDRAULIC power distribution on a large scale is said to be still gaining favor in England, and since the first attempts in that line made in Hull about eight years ago progress, it appears, has been steady and encouraging. An efficient company was organized in London a few years ago by the originators of the Hull scheme, and in both cities success has been assured. The consumption of water has rapidly increased since operations were commenced, and the power is now extensively employed at docks and railway stations, in warehouses and manufacturing establishments, and for operating elevators, cranes, presses, hammers, etc. Thus far, it is reported, there have been remarkably few leaks or breaks, notwithstanding the fact that the pipes must necessarily be threaded through the intricate system of other pipes, conduits and tunnels already existing in underground London.

A NEW electric indicator, the invention of a Boston man, is used to determine the location of minerals in hills.

ACCORDING to Dr. Brown-Sequard, one has only to harden the neck and feet and destroy their sensitiveness to prevent taking cold. This is done by daily blowing a stream of cool air, by means of an elastic bag, upon the neck, and by immersing the feet in cool water. The air is at first only slightly cool, but is each day made colder, until the neck can stand an arctic blast with impunity. The feet are immersed in water which is at first at a temperature of about 90° F., and this is gradually reduced to 38° F.

## Textiles.

### THE CROMPTON CORSET FACTORY.

THE new Crompton Corset Factory is thus described in a recent number of the *Berlin News*:—

It has four floors, 40 × 105 feet in dimensions, each being lit up by about forty windows which gives an abundance of light. The first flat, or basement, being wholly above ground, is devoted to the laundry, spinning and packing. The second flat has the business office, store room and department for making hoop-skirts. The third is the machinery department where are tables and machines capable of working nearly 200 people. The fourth is divided into two parts, one of which is devoted to the cutting department, and the other to storing. Every flat is heated with steam and lit with gas. There is also a system of ventilators which carry away through flues the surplus heat so as to entirely avoid any drafts. This new building is one of the finest of the kind in Ontario, and reflects the greatest possible credit upon the town and the energetic proprietors. The roof is probably the best in the country. It is made of matched boards, felt, pitch, and slate. It is proof against fire, water and frost. The exterior of the building and its proportions are all in the best of taste and most superior style of architecture. The contractor for the brick work was Mr. Henry Braun, for the wood work, F. Kaempff; painting and glazing, H. Hett & Sons. The cost of the building and lot is about \$11,000, the machinery, when all in, will foot up to between \$20,000 and \$30,000—all of which will give our readers some idea of the magnificent new factory just completed in Berlin.

### THE NOTTINGHAM LACE TRADE IN 1886.

(From the *London Times*.)

THE closing year has proved one of disaster to the Nottingham lace trade. The town has lost its monopoly in the production of lace fabrics, and should the present movement go much longer it will cease to possess even a principal share in that manufacture. For the past three years the industry has suffered great depression, caused, not by lace becoming unfashionable, (which was not the case), but by the increase of competition both on the continent and in various places in Great Britain, notably in Ayrshire and in Derbyshire. So eminent an authority as Mr. Jacoby, M.P., recently admitted in public that owing to the foreign duties it is more profitable to send Nottingham machinery abroad and work them there than to continue working them at home. The lace machine makers report that their best orders are now received from St. Pierre les Calais and Saxony, whence the lace made on Nottingham machines are sent to this country to compete with those goods produced at home. It is to be regretted that the production of the finest lace has been surrendered by Nottingham to her continental rivals without an adequate struggle, because none but high-priced goods can enable manufacturers in Nottingham to meet the high wage rates prevailing there. The other policy, however, has been adopted of throwing the weight of competition into the production of inferior and cheap classes of goods, in which the local manufacturers are heavily handicapped by the production of the new lace-making centres in Great Britain, for outside the town the Lacemakers' Union has no power over prices, and consequently labor is much cheaper to obtain. The effect of this has been to induce the removal of much machinery from Nottingham to enable the masters to work more profitably, while so slack is the demand in almost all departments that there is insufficient work to keep the machinery remaining in the town and hands fully employed. The net falling off in trade during the past four

years can hardly represent less value than half a million sterling, and unless a radical change is made in the scale of remuneration it is impossible for Nottingham ever to recover this loss. As regards the various branches of trade, all have suffered during the year, though not to an equal extent. The millinery goods are unable to make much headway against the popular Edelweiss lace, and the attempt to set up Swiss embroidering machines in Nottingham, which was commenced at the close of last year, has not proved strikingly successful. In the curtain trade some hopeful signs are reported, but producers find the labor difficulty in this branch a great drawback, they being unable to work successfully at a profit. The ten-point ribbon nets, which are required by Swiss embroiderers, have been in active demand throughout the year, but otherwise the plain branches of trade have only been moderately busy. In the silk department there was in the spring a better movement in Spanish and guipure laces, but the "promises of May" remains in December unfulfilled, and hope is still the chief consolation of those engaged in this once important and profitable branch of lace manufacture.

### CURRENT NOTES.

(From the *Textile Recorder*, Manchester, England.)

ALTHOUGH Germany has regular lines of steamships from Stettin, Lubeck, Stralsund, and Hamburg to Sweden, its textile manufacturers are unable to supplant their British competitors, who during the past year have done an increased trade with that country in cotton, woollen, and worsted yarns and woollen fabrics.

The French trade returns for 1885, published a few weeks ago, show a large increase in the export of wool from France to England—2,500,000 kilos against 1,300,000 kilos in 1881. The export of merinos rose in the same period from 2,800,000 kilos to 5,100,000 kilos, and that of woollen stuffs from 2,300,000 kilos to 3,300,000 kilos.

In Bergamo, one of the chief industrial districts of Italy, fifteen large mill owners closed their works on the 1st January, on account of the high duties on raw materials now in force throughout that country. It is said that 4,009 power looms, and 150,000 spindles are stopped, and 7,000 families thrown out of work.

The Swiss Commercial Union deprecate the establishment of a sample museum at Buenos Ayres on the ground that large dealers who can export directly to places beyond seas have already established their commercial connections, and do not need a sample museum, while traders on a small scale should be dissuaded from incurring the financial risks associated with the establishment of intimate commercial relations with such distant countries, more especially in the interior.

The competition with which Great Britain has to contend in Smyrna has considerably reduced the exports thereto. As regards the supply of some of the most important articles of import, she has been successfully rivalled within the last few years by Germany, Austria, France, and Belgium, so that much of the pre-eminence held for many years as chief purveyor to the material wants of this district of Asia Minor has been lost. Germany is Great Britain's most formidable rival in Smyrna.

The French flax spinners notice that, while the price of flax is rising, they are unable to raise the price of their yarn in proportion, but rather that it is continually falling in the home market. They have, therefore, decided upon a peculiar way of improving their position. It is proposed to raise among themselves a common fund, out of which premiums shall be paid to exporters to assist them in selling yarns abroad at prices which cannot be obtained at home. This at least shows that the French flax spinners are individually deficient in enterprise, which is one of the essential qualifications for success in business.

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1. The Exhibition will be free to all and open throughout the year.
2. It will afford all the advantages of a Toronto branch establishment at a very moderate cost.
3. Exhibits will be seen by large numbers of business men who would not be apt to visit a private branch office unless on special business.
4. The Exhibition will be extensively advertised and made very attractive, and as almost every variety of machinery and manufactured goods will be on view under the same roof, it will certainly become an important mercantile exchange.
5. Competent salesmen will be in charge for the purpose of explaining the merits of each exhibit to interested visitors.
6. Exhibitors can have printed on their office stationery "When in Toronto call and see sample of our goods at PERMANENT EXHIBITION OF MANUFACTURES." This may afford prospective purchasers an opportunity of personally inspecting goods, who would not be apt to visit outside towns for that purpose.
7. Exhibitors can appoint us selling agents, or can have their own representatives in charge. In the former case, every endeavor will be made to establish profitable trade.
8. Machinery can be shown in motion, as shafting and power will be provided.
9. Office accommodation will be provided for the convenience of exhibitors and their agents.

The following list contains the names of those having already secured space in the building.

Armstrong J. A. & Co., Guelph, Ont., Carpets.  
 Bertram, John & Sons, Dundas, Ont., Iron Working Machinery.  
 Blake, Geo., F. Manufacturing Co., Boston, Mass., Steam Power Pumping Machinery.  
 Brush, Geo., Eagle Foundry, Montreal, P.Q., Blake Stone Crusher.  
 Breithaupt & Co., Berlin, Ont., Leather.  
 Clare Bros. & Co., Preston, Ont., Stoves and Furnaces.  
 Cowan & Co., Galt, Ont., Woolworking Machinery, Engines and Boilers.  
 Creeluan Bros., Georgetown, Ont., World's Star Knitting Machines.  
 Dalley, F. F. & Co., Hamilton, Ont., Extracts, Essences and Grocers' Sundries.  
 Dominion Baby Carriage Co., London, Ont., Baby Carriages and Rattlers.  
 Dominion Hat Co., Hamilton, Ont., Felt Hats.  
 Donald Produce Co., Norwich, Ont., Evaporated Fruits.  
 Fenwick & Selater, Montreal, P.Q., Files and Mill Supplies.  
 Globe Tobacco Co., Windsor, Ont., and Detroit, Mich., Tobaccos.  
 Goldie, James, Guelph, Ont., Flour.  
 Goodline & Co., Danville, P.Q., Leather Belting and Lace Leather.  
 Grand River Knitting Mills Co., Paris, Ont., Smyrna Rugs and Knit Goods.  
 Grand & Toy, Toronto, Ont., Tucker Automatic Letter and Document Files.  
 Grape Sugar Refining Co., Walkerville, Ont., Syrups and Glucose.  
 Hamilton Industrial Works Co., Hamilton, Ont., Wringers, Mangles, etc.  
 Hamilton Rolling Mills Co., Hamilton, Ont., Bar Iron, etc.  
 Hamilton, J. S. & Co., Brantford, Ont., Native Wires.  
 Hart Emery Wheel Co., Hamilton, Ont., Emery Wheels and Emery Wheel Machinery.  
 Hay, Peter, Galt, Ont., Machine Knives.  
 Heavie, J. G., Montreal, P.Q., Toilet Soaps and Perfumery.  
 Howland, H. S., Sons & Co., Toronto, Ont., Hardware Specialties.  
 Howland, H. S., Kleinburg, Ont., Flour.  
 Henning Bros., Toronto, Ont., Fancy Goods and Jewellers' Cases.

Ives, H. R. & Co., Montreal, P.Q., Stoves and Hardware Novelties.  
 Kerr Bros., Walkerville, Ont., Water, Steam and Gas Valves.  
 King, R. W. & Co., Georgetown, Ont., Power Knitting Machinery.  
 Lee & James, Montreal, P.Q., Woolen and Cotton Mill Supplies.  
 Levesque, D. A. & Co., Montreal, P.Q., Varnishes and Japan.  
 Miller Bros. & Mitchell, Montreal, P.Q., Machinery and Beaudry's Steam Hammer.  
 Morris, A. W. & Bro., Montreal, P.Q., Cordage and Binder Twine.  
 Munderloh & Co., Montreal, P.Q., Watchmen's Clocks.  
 Northey & Co., Toronto, Ont., Steam Pumping Machinery.  
 Northumberland Paper Co., Campbellford, Ont., Straw Board and Tarred Paper.  
 Ontario Bolt Co., Toronto, Ont., Bolts, Nuts, Spikes, etc.  
 Oshawa Stove Co., Oshawa, Ont., Cooking and Heating Stoves, etc.  
 Paris Manufacturing, Paris, Ont., Knit Goods.  
 Pepper, T. & Co., Guelph, Ont., Carriage and Wagon Axles.  
 Pillow, Hersey & Co., Montreal, P.Q., (Gto. A. V. A. Western to presentative, Toronto.) Nails, 7. 1/2. Bolts, etc.  
 Ramsay, A. & Son, Montreal, P.Q., Plate and Stamp Glass, Paints, Oils, etc.  
 Robt. & Sellar, Montreal, P.Q., and Toronto, Ont., Leather Belting and Lace Leather.  
 Rumpel, Geo., Berlin, Ont., Felt Hats and Shoes.  
 Simpson & Co., Berlin, Ont., Furniture.  
 Smith's Falls Malleable Iron Co., Smith's Falls, Ont., Malleable Castings and Carriage Hardware.  
 Smith, R. H. & Co., St. Catharines, Ont., Every Description of Saws.  
 Stahlschmidt & Co., Preston, Ont., Office Furniture.  
 Storey, W. H. & S. S., Acton, Ont., Gloves.  
 Walker, James, Hamilton, Ont., Household Soaps.  
 Watts, A. & Co., Brantford, Ont., Household Soaps.

Further information will be promptly furnished.

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Office of Canadian Manufacturers' Association

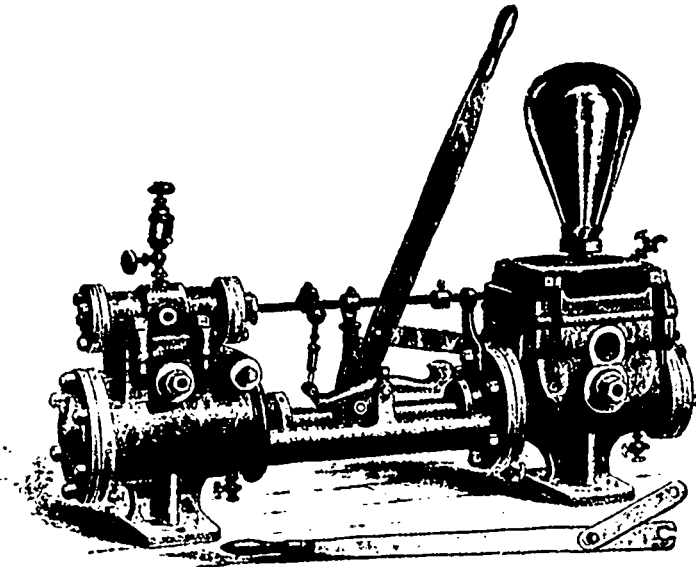
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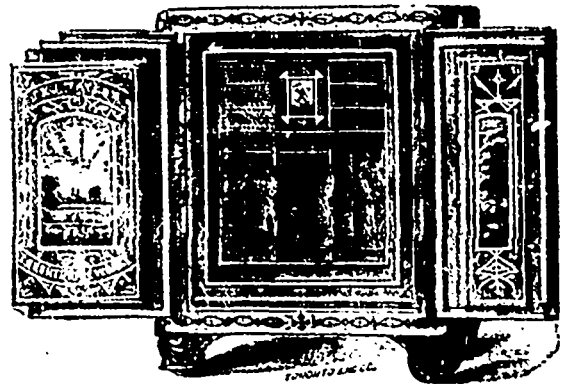
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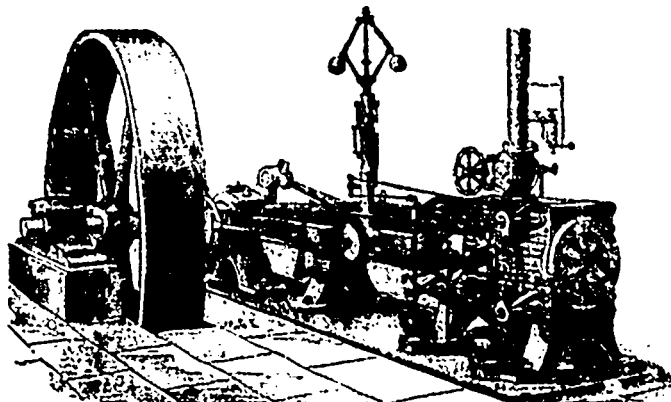
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# Mining.

## CANADIAN COAL.

(Chicago Industrial World.)

THE Canadian Government recently caused to be published a statement showing the production of coal in that country under the protective policy of Sir John Macdonald, as compared with that under the unprotected policy of the Mackenzie administration. The two periods are classed as those between 1874 and 1878 (unprotected) and 1880 and 1885 (protected). The results are shown in the following figures:—

Sales, in Tons—	1874-8.	1880-5.
Total sales.....	2,480,705	7,053,535
Sold to United States.....	667,680	587,910
Sold to other countries.....	411,530	561,205
Sold within Dominion.....	2,401,495	5,801,390
	<i>Ar. per annum.</i>	<i>Ar. per annum.</i>
Total sales.....	696,141	1,175,589
Sold to United States.....	133,536	97,999
Sold to other countries.....	82,306	94,034
Sold within Dominion.....	480,299	966,898

It will be seen by these figures that the total sales in the protected over the unprotected period increased 68.87 per cent., and the increase of sales within the Dominion was 101.30 per cent. It is represented that 25,000 people are employed in the coal industry alone in Nova Scotia. These figures are very encouraging to the advocates of protective tariffs in Canada, and tend not a little to strengthen the position of Protectionists in the United States.

### A LESSON OF THE STRIKE--ALL-RAIL COAL.

(Coal Trade Journal.)

ONE of the lessons of the coal-handlers' strike has been the facility with which coal could be delivered (at a higher rate than before, of course, but still a delivery was made) by one way or another to New York city. There has been coal brought all the way by rail from the mines—to Lyons on the New York Central and thence via Albany to N.Y. In fact there was a large tonnage by this line for the Elevated Roads, being turned over to them at High Bridge, and the novel sight of the Lehigh Valley cars making the circuit of the Island, up to 99th street and third avenue, has been daily witnessed. Messrs. J. D. Kurtz Crook & Co. have received some coal in this way (all-rail via N. Y. C. & H. R. R.) to 29th street and 10th avenue, on the west side.

Then there has been the coal supplied to Brooklyn—all rail, one might say—in the D. L. & W. coal floated over from Hoboken for delivery by the Long Island Railroad to various points on its line: Bushwick, Atlantic avenue and Flatbush avenue. S. G. French has been handling Jermyn coal from the N. Y. S. & W. road switched to the West Shore at Weehawken and thence floated over to the foot of 33rd street, North River, and sold for a good round sum. Then we hear that Messrs. Swords & Co. have floated coal across at Newburgh and connecting there with the N. Y. C. & H. R. R. delivered coal at all points and into the city of New York—and the N. Y. & N. E. road did a splendid trade all the month of January.

Shooners have been chartered at 50 and 75 cents per ton from the loading ports to New York—sometimes the B-L was made out for Providence or Fall River.

The all-rail trade to N. Y. has been so successfully worked that in one day 400 tons was delivered to carts direct from the cars in which it left the mines. It is claimed that there is not nearly so much waste on this coal as in other cases where coal is dumped into boats, carried over and unloaded in the average way. Surely there is a lesson in all that has been written, which will be conund, anew, and bear fruit.

# Lumber.

## ANOTHER INFERENCE FROM THE SAME FACTS.

(Lumbermen's Gazette, Bay City, Michigan.)

ITEMS are sometimes written and published in trade papers intending to show some particular fact in regard to business, which in reality, although perhaps not intentionally are very significant in another direction. The *Canada Lumberman* in a recent issue, editorially remarks as follows:—“The outlook for business among the lumbermen of the Ottawa district during the present season is of a most satisfactory character, and if the fact that more lumber was sold during the past year for the United States market, than has ever been sold during the same period in the past can be accepted as a criterion, the business done will certainly be a source of envy to other lumbering centers, whether Canadian or American.” The writer, of course, merely intended to refer to the gratifying features of the Ottawa lumber business; but it has a very important bearing on the protective feature of the lumbering interests of this country. As we remarked last week, if the shipments of lumber from Ottawa to the United States markets is on the increase, under the imposition of a \$2 revenue tax, what would be the result if this \$2 duty were removed and Canadian lumber admitted to free competition with our own product. It would simply compel our manufacturers to reduce the wages of their employes to a par with the cheap labor of Canada, or the inevitable result would be that our lumber industrial establishments would gradually languish and die because the inability of the owners to compete with the Canadian producers. We wonder if there is any considerable number of people in this country who are desirous of bringing about such a result?

### A LUMBER FIRM FAILS, BUT IN OTHER BUSINESS.

VERY often it happens that a man, while making lots of money in his own proper business, manages to “drop” it all in outside ventures. The following from the *Lumberman's Gazette* is a case in point:—“The failure of the lumber firm of Monroe Bros. & Co., Cleveland and other points, was a stunner to very many people in this city, where the Monroe Bros. are well known, having resided here most of the time since they were boys. The opinion had become general here that they had accumulated great wealth. This is not the first misfortune which has befallen them since they first engaged in business. Several years ago, after accumulating sufficient to secure a reputation for considerable wealth they “dropped their pale” in Chicago in an endeavor to become bonanza kings through the medium of a patent crimping iron. It proved a failure, however, and involved them in great financial difficulty, from which they finally extricated themselves by manly, persistent, and untiring effort. One of the brothers is at present interested in a patent refrigerator. Whether that circumstance had any connection with freezing them up financially or not, we are unable to state.”

DR. WOODBURY recommends a soft rubber shield to be slipped over the metal part of a pen holder as productive of comfort to the writer, and as a preventive of what is known as writers' cramp.

RECENT experiments by Dr. Parsons seem to establish the fact that the germs of ordinary infectious diseases cannot withstand an exposure to dry heat of 230° F., or an exposure of five minutes to boiling water steam for 212°.

It is estimated that the material contained in the Chinese wall would build a wall around the world six feet high and two feet thick. Its cost was probably equal to that of all the 100,000 miles of railroad in the United States.

## Miscellaneous.

### BRITISH STEAMSHIP SUBSIDIES.

(From the London Statist, December 25th, 1886.)

The following (so far as we have been able to obtain them) are the English steamship companies which receive Government subsidies, or are under contract for the carriage of mails, etc., between the United Kingdom and its colonies. We may observe with regard to the mail for India, Australia, etc., that they are taken overland to Brindisi or Naples. The Peninsular and Oriental Steamship Company is under contract with the British Government to carry all mails between those points and Suez, Aden or Colombo, at which places the mails for Australia are transhipped and carried at the expense of the Colonial Governments by the Orient, the Queensland Royal Mail, or the company's own line of steamers between Colombo and Melbourne, respectively. A portion of the Australian mails, however, is sent *via* San Francisco, and the Union Steamship Company of New Zealand is subsidized by the Governments of New Zealand and New South Wales to the extent of £30,000, £10,000 of which is paid by the latter Government, while the New Zealand Shipping Company is under a contract with the New Zealand Government to run a four-weekly mail service to and from this country, the payment being according to the weight of the mails.

*Allan Royal Mail Line.*—The Allan Line, running between the United Kingdom and Halifax, receives from the Canadian Government a subsidy for the conveyance of mails. In the financial year 1884-5 the amount so received was about £25,306.

*British and African Steam Navigation Company.*—The British and African Steam Navigation Company receives a subsidy of £1,200 a year from the crown agents for the colonies for a three-weekly mail service from Liverpool to the Gambia; but it has been notified that the subsidy is to be withdrawn after January next.

*British India Steam Navigation Company (Limited)—Queensland Royal Mail Line.*—The British India Steam Navigation Company, limited, running the Queensland Royal Mail Line, receives a subsidy from the Queensland Government of £55,000 per year. For this sum the company contracts to dispatch a steamer monthly each way between the United Kingdom and that country and to carry the mails between Aden and Cooktown *via* Torres Strait, to call at several ports in the north of Queensland, and to make Brisbane the terminus. The company also undertakes to carry emigrants for £16 per head. The contract was signed in 1880 and ends in 1888.

*Castle Mail Packet Company (Limited).*—The Castle Mail Packet Company, limited, receives from the Cape of Good Hope Government a subsidy of £25,000 per annum for a fortnightly mail service, and of £7,400 per annum from the Natal Government.

*Orient Lm.*—The Orient Line, though not receiving any subsidy, is under contract with the New South Wales Government to carry mails fortnightly alternately with the P. and O. Company) between Suez and Melbourne, for which it is paid at the rate of 12s. per pound for letters, 1s. per pound for packets, and 6d. per pound for newspapers. This contract will terminate in February, 1888, contemporaneously with the P. and O. Company's contract with the Government of Victoria. The company is also official contractor to the New South Wales Government for a service of emigrant steamers (part from the mail packets, from Plymouth to Sydney, *via* the Cape of Good Hope. The terms of this contract we have been unable to obtain.

*Peninsular and Oriental Line.*—The Peninsular and Oriental Company receives from the Postmaster-General a sum of £360,000 for the carriage of the India and China mails, and also the colonial mails to points where they are transhipped for Australia. The service comprises a weekly mail to Bombay

and a fortnightly mail to Shanghai, the steamers touching at intermediate ports *en route* to and from Brindisi. This contract expires on February 1, 1888, when another will come into force lasting for ten years. The company will then receive £265,000 per annum. Of the sum now received India contributes £65,000, Ceylon £1,400, the Straits settlements £6,000, and Hong Kong £6,000. Besides this subsidy the P. and O. Company receives from the Government of Victoria the sum of £85,000 per annum for a fortnightly service between Ceylon and Melbourne; this last contract also ends in January, 1888, it having commenced February 1, 1880. The terms for a new contract have just been discussed by the Victorian Government, but the tenders made by this company have not been accepted, as the Victorian Government hopes to arrange a mail service involving it in no loss.

*Royal Mail Steam Packet Company (Limited).*—The Royal Mail Steam Packet Company, limited, is under contract with the home government to run a service of steamers twice in four weeks from Southampton to Colon, *via* Barbadoes, Jaemel, and Jamaica, twice in four weeks each way between Barbadoes and Demerara, direct to Trinidad, and the other isles being served by branch lines from Barbadoes. The subsidy for this service is £90,000. In making the tender for the contract the Royal Mail Company specified that if its steamers started from Plymouth instead of Southampton it would require a larger subsidy by £1,250 per annum. The Postmaster-General, while deciding that the steamers should start from Southampton, reserved the right of altering the port to Plymouth upon giving three months' notice to the company, and upon payment of the above-mentioned sum of £1,250 per annum. This contract, which came into force on July 1, 1885, will continue so until the expiration of a twenty-four months' notice in writing, to expire on or after June 30, 1890, given to the company by the Postmaster-General.

*Union Steamship Company (Limited).*—The Union Steamship Company, limited, receives from the Cape of Good Hope Government a subsidy of £25,000 per annum for a fortnightly mail service. The present agreement commenced in September, 1883, and expires on September 30, 1888. This company also receives £7,400 per annum from the Natal Government for the carriage of mails.

### DANGER FROM RAILWAY CARS TAKING FIRE.

(Railway Review.)

WHILE urging reform in the methods of heating cars, with the object of rendering impossible such agonizing features of disasters as those witnessed at Republic, it should not be forgotten that the main point is to reduce the chances of the accidents themselves. It appears that at Republic trainmen of both trains were grossly neglectful of their duty. The freight crew took a dangerous chance, and failed to take precautionary measures afterwards, and the passenger engineer was, it appears only carelessly observing his track. Methods to insure the employment of absolutely trustworthy men only, should be sought. It is better, by the way, to study the men and to drop those revealing a tendency to indolence or to liquor using, as soon as the discovery is made, and not wait for a piece of carelessness causing an accident to afford the pretext of discharge. Thoroughly proper discipline would cover this point.

Another line of reform that would be effective in this connection would lead to the car shops. Cars should not be so easily telescoped. It is difficult to see any reason why the occupant of the smoker or coach should not have something of the protection against having his body sheared in two in a telescope that the occupant of the sleeping car has. As it is the weakest cars are usually called upon to bear the heaviest strains in collisions. Increased care among employees and better construction of cars would so change the character of nearly all forms of railway accident that the deadly car stove would find no chance to perform its terrible work.

## TARIFF PROTECTION AND FARMING.

*(From the Chicago Journal.)*

If the comparatively few persons directly engaged in manufacturing be excepted, there is no class in the community that has greater interests in the continuance of the Protective tariff policy of the Government than the agriculturists.

While the assertion is unquestionably true that agriculture is the foundation upon which our national prosperity is built and sustained, it is also just as true, and all experience proves it, that a strictly agricultural community or State is generally a poor one. That nation is the most prosperous which fosters a diversified industry, and, by developing all its natural resources, finds remunerative employment suited to the tastes and genius of all its citizens. Competition runs the business of farming as quickly as any other, and the prevailing low prices for all farm products show that too many people are already engaged in agriculture to make it profitable. There is too much grain in sight, too much still in the hands of the farmers; the demand for foreign shipment is too little; the home consumption is too small, to expect a speedy advance in prices. But, discouraging as the present outlook is for the farmers, their condition would be much worse if the present high Protective tariff should be reduced to the "revenue reform" basis of Mr. Morrison and his Free Trade associates, and the thousands of artisans and skilled workmen now engaged in manufacturing be driven from the mills, factories, and workshops to get subsistence for themselves and families out of the ground.

The whole history of our tariff legislation proves that every tariff law that has been enacted since the Government was established which has ignored the Protective feature has told as quickly and disastrously upon the farmers as upon any other class. Their interests are best subserved by the establishment of other prosperous home industries, by profitable manufacturing, by successful commerce, by the exchange of commodities, by sound banking, and by all the other means that give men and women employment in other pursuits and keep good the home market.

Land is cheap or dear according to the number of people who live upon or near it. It is very high in all the large cities and very cheap in all the new States and Territories. In the vicinity of New York and Philadelphia the market gardener pays from \$100 to \$500 per acre for his land, and finds it profitable, because he has a ready market at his own door for all his produce, while much better land can be bought in Dakota for \$5 per acre and less. The Dakota farmer is impoverished by the high rates of transportation to distant markets. The Protective tariff benefits the agriculturist by keeping large bodies of men and women engaged in other remunerative employments, thus avoiding competition, and, while the land is enhanced in value by that method, all farm products are increased in price because there are so many hungry mouths to feed. The farmers near the large cities and manufacturing towns readily turn all their surplus products into cash, while today the farmers of Iowa are burning corn for fuel, and in Dakota they are feeding No. 1 hard wheat to their mules.

Some of the figures extracted from the last United States Census Reports show in a very striking manner how a diversified industry favorably affects the people of different States—how manufacturing and the development of the natural resources make one community prosperous, and how sticking to agriculture alone impoverishes another and handicaps it in the race of progress. For the comparison take the two States of Pennsylvania and Virginia, with very similar natural advantages on the start in respect to soil, climate, mineral resources, and adaptability for becoming a great State. The Pennsylvanians early turned their attention to manufacturing; to making the most out of their coal and iron; to entering into competition with the traders of the world; to supplying the

wants of their fellow-men at home and abroad, and to influencing the General Government to aid them by levying Protective duties upon goods imported from foreign countries. Four-fifths of the people of Pennsylvania are to-day engaged in some other pursuit besides agriculture, and by thus making a home market the average value of the land is over \$50 per acre, and the farmers are independent. In Virginia a different policy was adopted; manufacturing was neglected; the ore and the coal were allowed to sleep untouched in her mines; her magnificent water-power turned the wheels of no factories; three-fourths of her people engaged in agriculture and bought the goods they ought to have made. Her land is worth only \$10 per acre; her credit is poor, her farmers are behind-hand; her progress has been very slow; she is at the foot of the ladder of prosperity, while Pennsylvania is sitting on the top-most round. The difference in the aggregate wealth of the two States is enormously on the side of Pennsylvania, and the chief reason is that her people were prompt to take advantage of the Protective policy of the Government to build up and diversify their domestic industries.

## THE ENGLISH DEPRESSION REPORT.

*(From Beadstreet's.)*

PROBLEMS regarding the nature and causes of trade depressions are among the most interesting and important with which the economist and the man of business have occasion to deal, but it is seldom indeed that investigations in relation to them have resulted in very great success. The inquiry conducted by the English Royal Commission on the depression of trade is no exception to the general rule. When the commission entered upon its work we hazarded the opinion that it would not accomplish much of value. The opinion has been borne out by the results, as far, at least, as the conclusions of the commission itself are concerned, though the witnesses examined before the commission gave much information of interest. The earlier reports submitted by the commission were colorless and uninteresting, indeed, it was an open secret that only upon such reports was anything like a general agreement possible. The commission has now submitted a final report, or rather series of reports, for the members are not unanimous. The conclusions arrived at by the members simply reflect opinions which had more or less acceptance when the investigation was set on foot.

The principal features which characterize the existing commercial situation in England are declared by the commission to be a serious decline in the exchangeable value of the products of the soil, increased production in nearly all other classes of commodities, a tendency in the supply of commodities to outrun the demand, a consequent diminution in the profit obtainable by production and a similar diminution in the rate of interest on invested capital. The trade depression, the commission thinks, exists not so much among the laboring poor as among capitalists. The causes assigned for the depression are numerous. The commission summarizes them under eight heads, viz., (1) over-production, (2) a continuous fall of prices caused by the appreciation of the standard of value, (3) the effect of foreign tariffs and bounties and the restrictive commercial policy of foreign countries in limiting English markets, (4) foreign competition, which is being felt both in English and in neutral markets, (5) increased local taxation and burdens on industry, (6) cheaper rates of carriage enjoyed by foreign competitors, (7) legislation affecting the employment of labor, and (8) the superior technical education of workmen in foreign countries. Judging from their conclusions, the members of the commission are no wiser and no better off than ordinary people in relation to the subject which they have under consideration. They have attacked a phase of one of the most difficult problems in economics, for a definite solution of which we have yet to wait.

## CURRENT NOTES.

(From the Canadian Gazette, London, England.)

COPIES of the Canadian Federation Medal have, we learn, been awarded to Sir Robert G. W. Herbert, K.C.B., the permanent Under Secretary of State for the Colonies; to the Hon. Cavendish Boyle, Colonial Secretary to the Island of Bermuda; as well as to Mr. J. Gordon Brown, who was formerly editor of the *Toronto Globe*, and to the Rev. Dr. Tanguay, author of the *Dictionnaire Généalogique des Familles Canadienne-Française*.

WE recently published two valuable analyses, by Mr. Robert Smith, of the Royal School of Mines, of copper ore from the Sudbury Mines, and the galena lead ore from the district of Lake Temiscamingue. Specimens of both these minerals have, we learn, been removed from the Colonial Exhibition to the offices of the High Commissioner, and may there be inspected by any who take an interest in the subject.

NEWFOUNDLAND has long prided herself upon being the oldest Colony under the British crown. As far back as 1623 it was settled, and possessed a system of responsible government at a time when other colonies had little thought of any such sign of progress. Seeing, therefore, their undoubted right to the title, Newfoundlanders have just cause of complaint against Miss Gordon-Cumming, who in the current issue of *Macmillan's Magazine*, heads an article on "Bombay" with the words "Our Oldest Colony." As a matter of fact Bombay is not a colony at all, but merely one part of the British Dependency of India. But even were it a colony, Newfoundland would still be justified in looking upon herself as the earliest Colonial possession of the British crown.

WE recently reproduced a paragraph from a contemporary relating to the alleged serious condition of the finances of the Imperial Federation League. A letter from the Secretary of the League points out that the paragraph in question formed part of a private and confidential report to the Executive Committee early in November, and that since that date the income of the League has received a considerable increase, though additions to its income are still needed, and will continue to be required "so long as the development of its work proceeds with the rapidity of the last few years." The Secretary confirms the statement that, according to a resolution passed by the League in July last, the income desired for the effective carrying on of its work is placed on £1,000 per annum.

THERE is not much that is new in the article which Captain J. C. R. Colomb contributes to the first number of *Murray's Magazine* upon "Cosmopolitan Theories and Colonial Facts." The cosmopolitan theories are the fast-dying doctrines of the old Manchester School, while the Colonial facts comprise Captain Colomb's interpretation of the increase of Colonial importance, and the growing desire of the Colonies for at least a continuance of, if not an improvement in, the present relationship with the Mother Country. There is just one paragraph in Captain Colomb's paper which we cannot refrain from reproducing:—"The announcement in the Queen's Speech marks a new departure, and inspires hope. But with respect to the character of the responses from the Colonies to which communications have been addressed, much depends upon the extent of their belief that the Mother Country is really in earnest. With the experience of the immediate past, what wonder if they think that it would be prudent for them to withhold their verdict until we have produced—not our schemes—but our proofs that we are in earnest."

MR. CHARLES H. TUPPER has had no difficulty in showing to the readers of the *Standard* the falsity of the position which Mr. Fielding has endeavored to take up in regard to the seces-

sion agitation in Nova Scotia. In his letter, which we reproduce in another column, he quite bears out what we have often urged in these columns as to the want of any national or even provincial character to the movement which has Mr. Fielding at its head. Conclusive, also, is his answer to many of Mr. Fielding's arguments, an answer which is all the more forcible from the fact that it comes, as it were, out of Mr. Fielding's own mouth. It would seem, too, from our "Dominion News" this week, that Mr. Fielding is to a large extent reckoning without his host. For, according to a statement made by the Hon. Mr. Ferguson, the Provincial Secretary to Prince Edward Island, when recently in Ottawa, there is little or no sympathy with secession views either in Prince Edward Island or the Province of New Brunswick. Mr. Fielding's idea, it will be remembered, is that the three Maritime Provinces of Canada should unite in one Federation and be quite independent of the rest of the Dominion. In Prince Edward Island, however, Mr. Ferguson assures us, there is no support of the movement; and, judging from the public utterances of Premier Blair of New Brunswick, that Province, too, is altogether opposed to the proposal. Indeed, we are more than ever inclined to the opinion which Mr. Ferguson puts into the following words:—"As to the secession movement, it is well known that in Nova Scotia, which alone has given it any endorsement, it is merely a piece of bluff."

THE *Daily News* correspondent at Madrid asserts in a recent letter that "Spain is making another attempt to secure a privileged position for Cuban and Puerto Rico sugar and tobacco in United States markets;" while Spain in exchange offers to make special and exclusive arrangements for American imports of all kinds in her islands, and to show her good-will has extended to the middle of March the commercial *modus vivendi* which was to have expired on the last day of the old year. The correspondent further states that should the contemplated treaty between the United States and Spain be again rejected by the American Congress the Spanish Government will suspend the *modus vivendi* and levy a 25 per cent. differential duty on all American imports, and "immediately make exceedingly favorable overtures to England and other European Powers to obtain new markets for Spanish West Indian exports, in order that the prosperity of her Colonies should no longer depend upon American tariffs and markets." This statement, it will be noted, refers to negotiations proceeding between the United States and Spanish Governments, and seeing the general nature of such diplomatic negotiations, it is of course quite possible that the announcement has no foundation in fact. Canada now occupies the same position as the United States in regard to trade with the Spanish West Indian Islands—that is, both come under the "most favored nation" clause. As to any possible changes, there is every reason to believe that the interests of Canadian commerce are receiving the close attention of the Canadian Government.

## LABOR NOTES.

(From the Boston Manufacturers' Gazette.)

THE loss to labor from the Troy (N.Y.) collar strike was over \$5,000,000.

THE bricklayers and masons have resolved against socialists, communists and anarchists.

THE grand total losses by strikers last year is estimated at \$95,000,000.

THE locomotive engineers on the Canadian Pacific ask for \$3.50 per day. They are receiving now \$2.30.

THE Ray Woollen Company at North Bellingham, Mass., commenced weekly payments with the new year.

THE weavers' strike at the woollen mill of D. W. Ellis & Son, at Monson, began by the firing of a weaver for a "mispick."

BUSINESS among the shoe shops of Lynn has not been so dull in the past eighteen years as it is at the present time, and lots of cutters are willing to work for \$15 a week.

THE strike at the mill of the Moss Manufacturing Company at Westerly, R.I., continues, but the company is gradually increasing the number of its employes, who have taken the places of the strikers.

It is asserted that more money is paid out to the hands in the iron and steel works of which Mr. Andrew Carnegie is the head, than is paid in wages at the great Krupp gun works in Germany, where 10,000 men are employed, as against 6,000 in the Carnegie works in and near Pittsburg, Pa.

THE Wason Car Manufacturing Company, Brightwood, Springfield, Mass., has found such a decided improvement in business that it has increased the wages of its employes, 350 in number, 10 per cent. Wages were reduced 10 per cent. three years ago, and the increase has been made without any solicitation.

THE strike at Spencer, Mass., directly affects over 4,000 people. One of the Prouty Brothers struck the key-note of the whole agitation when the committee of employes appeared and refused to continue work except on their own terms. "Gentlemen," he said, "we can't agree to that. If we need you before you want to come back, we'll send for you. If you need us first, you can call again." Then the committee took their departure, and now both parties are quietly waiting to see who will give in first.

## NEW PROCESS IN SOAP MAKING.

(Industrial Review.)

M. F. ROHART lately communicated to the Belgian National Society of Agriculture his experiments in the saponification of wool grease, which will probably lead to the successful manufacture of a new and cheap soap. He introduces into the grease, while the latter is heated, large volumes of sulphuretted hydrogen gas, which is absorbed by the grease oven to 100 times the bulk of the latter. The impregnated grease, when cooled, is treated with potassium carbonate (*Alkalikarbonat*, or common potash), and quickly becomes saponified. The soap obtained, though of inferior quality, has no odor of fat or sulphuretted hydrogen.

M. Rohart has submitted various other fats and oils to the same process, and finds that each of such substances, according to its affinity for sulphuretted hydrogen, can be entirely saponified by the use of ordinary potash. Owing to foaming, occasioned by development of carbonic acid gas during the process, the latter must be performed in a deep and partially filled vat. Soap made by this mode from fats and oils other than wool grease, is free from carbonic acid when finished, and of very good quality. By the use of ordinary potash, instead of caustic potash, there is effected a saving of 30 per cent. in the cost of manufacture.

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## NOTICE TO CONTRACTORS.

SEALED TENDERS addressed to the undersigned, and endorsed "Tender for Dredge Scows," will be received until MONDAY, the 14th day of FEBRUARY next, inclusively, for the construction and delivery of

### TWO SIDE-DUMPING DREDGE SCOWS,

in accordance with a plan and specification to be seen on and after Monday, the 31st day of January, instant, at the following places, viz: Office of Mr. James Nelson, Montreal; Public Works Department, Ottawa; Custom House, Kingston; and at the Custom House, St. Catharines where printed forms of tender can be obtained.

Persons desiring to tender are advised that tenders will not be considered unless made on the printed forms supplied, the blanks properly filled in, and signed with their actual signatures.

Each tender must be accompanied by an accepted bank cheque made payable to the order of the Honorable the Minister of Public Works, equal to 5 per cent. of the amount of the tender, which will be forfeited if the party declines to enter into a contract when called upon to do so, or if he fails to complete the work contracted for. If the tender be not accepted the cheque will be returned.

The department does not bind itself to accept the lowest or any tender.

By order

A. GOBEL, Secretary

Department of Public Works,  
Ottawa, 24th January, 1887.



## NOTICE TO CONTRACTORS.

SEALED TENDERS addressed to the undersigned and endorsed "Tender for New Examining Warehouse, &c., Ottawa," will be received at this office until TUESDAY, 1st March, for the several works required in the erection and completion of the

### NEW EXAMINING WAREHOUSE, &c.,

AT

OTTAWA.

Plans and specifications can be seen at the Department of Public Works, Ottawa, on and after Monday, 14th February.

Intending contractors should personally visit the site and make themselves fully cognizant of the work to be done, according to the said plans and specifications, before putting in their tenders.

Persons tendering are further notified that tenders will not be considered unless made on the printed forms supplied, and signed with their actual signatures.

Each tender must be accompanied by an accepted bank cheque made payable to the order of the Honorable the Minister of Public Works, equal to five per cent. of the amount of the tender, which will be forfeited if the party declines to enter into a contract when called upon to do so, or if he fails to complete the work contracted for. If the tender be not accepted the cheque will be returned.

The Department does not bind itself to accept the lowest or any tender.

By order,

A. GOBEL, Secretary

Department of Public Works,  
Ottawa, 27th January, 1887.

**\$50**

If you think of expending fifty or an hundred dollars in advertising, send us a copy of your advertisement and we will tell you (free of charge) what will be the best possible investment for you to make. Send 10 cts. for our 176 page pamphlet. Address,

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**ARMSTRONG'S BUGGY AND CARRIAGE GEAR.**

## The "Defiance"

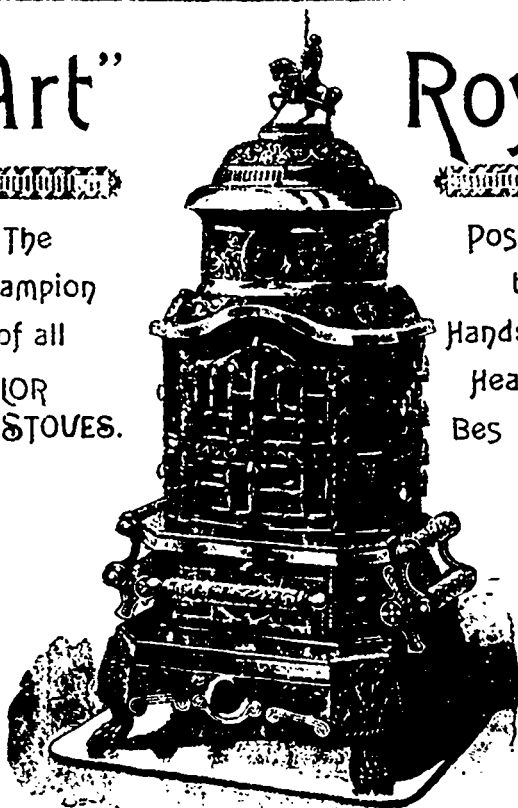
**T**HIS GEAR meets the demand of the Driving Public for the best Buggies, and combines with this, lightness, durability, and great ease of motion. By the use of improved machinery and manufacturing in large quantities, we are enabled to make prices moderate. Send for our descriptive circular.

J. B. ARMSTRONG MFG. CO. (Ld.), Guelph, Ont.

**"Art"**



The  
Champion  
of all  
**PARLOR  
STOVES.**



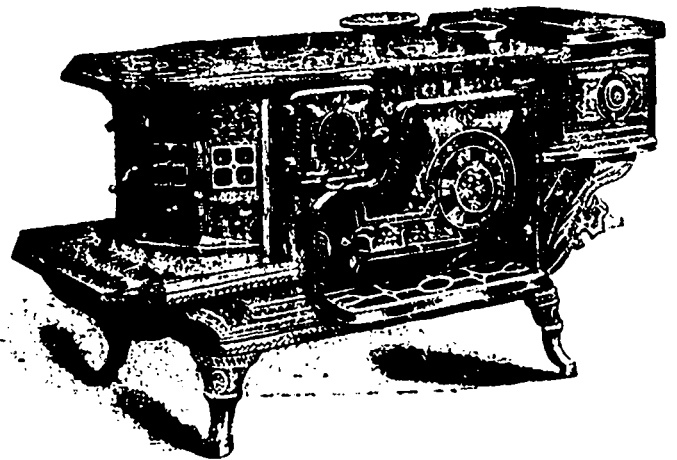
**Royal**



Positively  
the  
Handsomest,  
Heaviest,  
Best Made.

**NEW COMBINATION**

FOR COAL OR WOOD.



WINNIPEG, MAN., MARCH 9th. 1886.

McCLARY MANFG. CO.,

DEAR SIR,—I have used your Combination Cook Stove for nearly two years, and am very much pleased with it. It has given entire satisfaction both as a coal and wood stove, and I find it can be changed from coal to wood or vice versa without trouble. Used as a coal stove, the fire can be kept in all night as readily as a self-feed hall stove. It is just the stove for this climate.

Yours truly,

J. H. BROCK (OF CARRUTHERS & BROCK)

THREE SIZES PARLOR.  
No. 30, No. 40, No. 50.

TWO SIZES WITH OVEN,  
No. 40, No. 50.

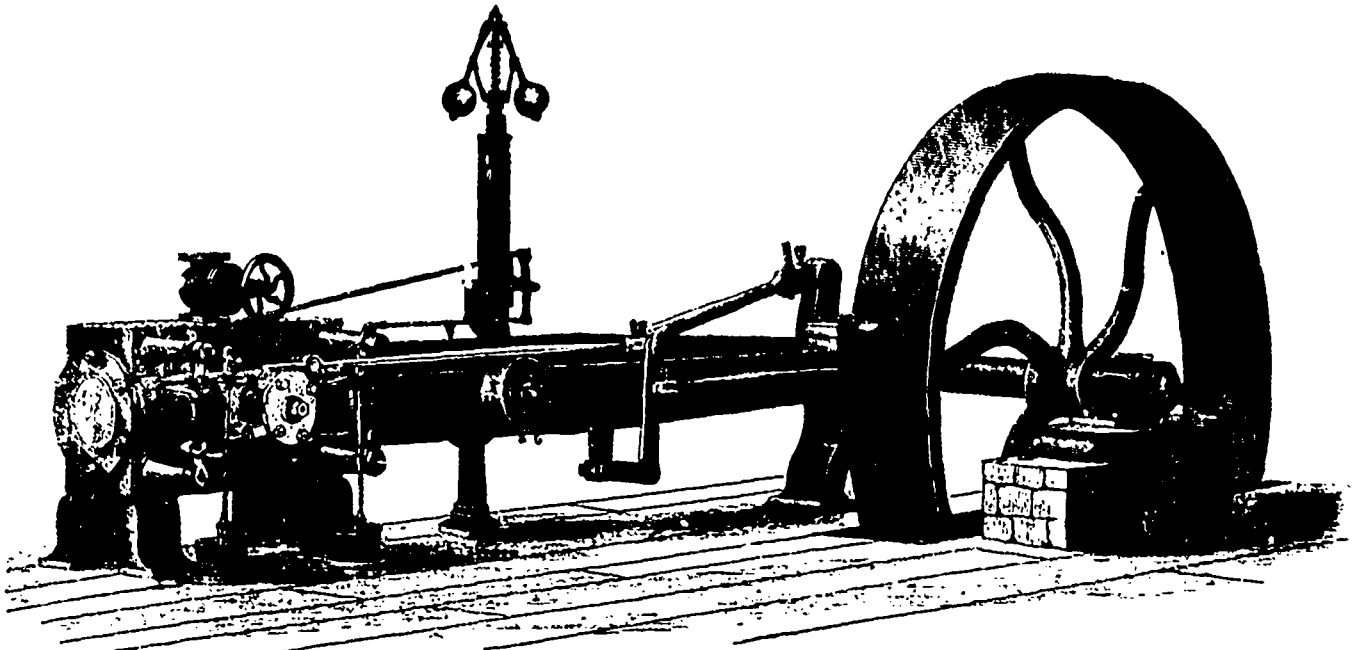
MANUFACTURED BY

**McClary Mfg. Co'y.**

London, Toronto, Montreal and Winnipeg.

# THE GALT FOUNDRY,

## Engine and Machine Works.



# THE HARRIS-CORLISS STEAM ENGINE

Is the most perfect Cut-off Engine made. For Economy of Fuel, Regulating of Speed, Accessibility of all its Parts, it has many Imitators, but no Equals, and is Unsurpassed.

While many Engines of the same class have been invented, built, tried and abandoned, the Harris-Corliss has steadily gained in public favor, and is now

**Without a Successful Rival.**

## PLEASE NOTICE SOME OF THE ADVANTAGES OF THE HARRIS-CORLISS ENGINE:

- 1st—The Steam is admitted at Boiler pressure to the piston by the main valve and is cut off at the same point, the load determining through the regulator, when the supply of steam shall be cut off. This is the only Engine that thus admits steam at full boiler pressure.
- 2nd—The success of the Harris-Corliss Engine lies in the simplicity and precise action of the governing elements. The Governor is an independent mechanism, with no extraneous load, and free to instantly respond to all variations in the angular velocity of rotating parts.
- 3rd—No parts of the regulating medium enter the steam chest and thereby be out of sight of the engineer, and subject to the corrosive action of steam and the oil used for lubricating the valves and piston.
- 4th—Regularity of Speed under varying loads of steam pressure.
- 5th—Recessed Valve Seats which avoid the liability of wear on the shoulders on them.
- 6th—Stop Motion on Regulator of Engine which effectively stops the Engine whenever the regulator by any means fails to perform its work, thus preventing the Engine from running away.
- 7th—Having four Valves either can be adjusted independently of the other with the greatest ease.
- 8th—The increased amount of power it develops.

We would draw special attention to our new and improved Adjustable Pillow Block, which is pronounced by all practical men who have seen it to be the very best in Canada.

## COWAN & CO.,

Galt, Ont., Canada.

Manufacturers of Engines, Boilers and Wood-Working Machinery—all kinds, new Patterns, highly finished.



Steam Pumps  
AND  
Hydraulic  
Machinery  
OF  
All Descriptions.

# NORTHEY & COMPANY

## HYDRAULIC ENGINEERS.

SPECIALTY:  
Northey's  
PATENT  
STEAM  
PUMPS.

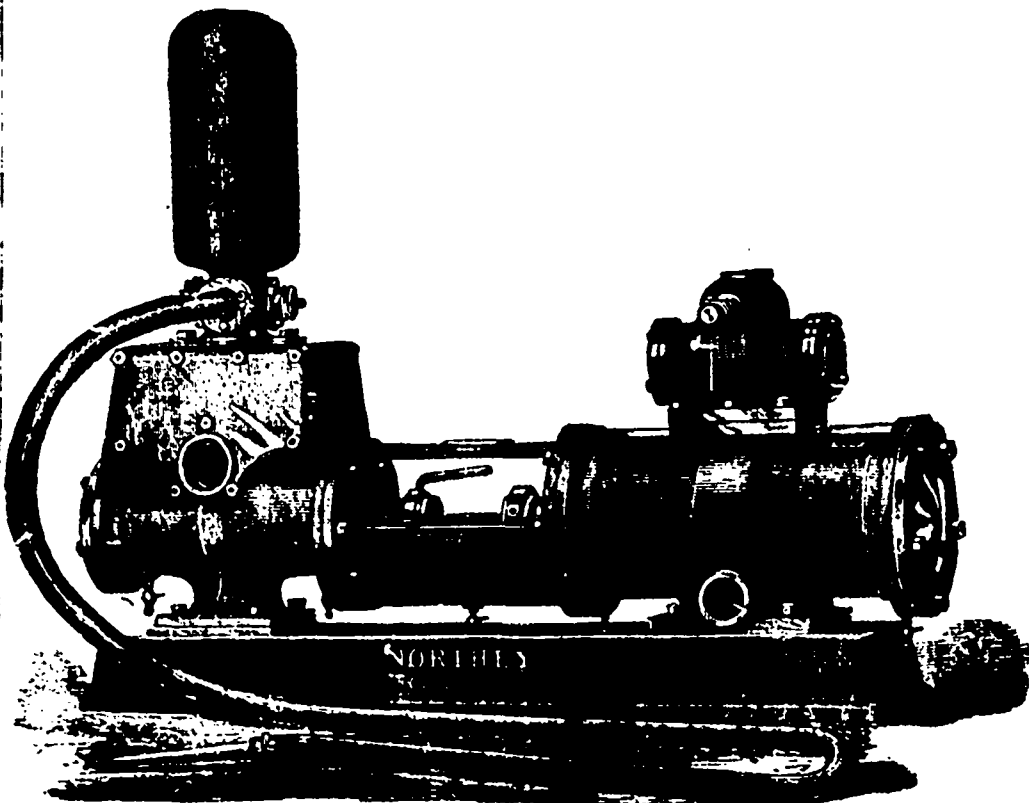
Works and Office: Corner Front and Parliament Streets, Toronto, Ont.

### The NORTHEY PUMP

—IS THE—

*Simplest and Most Durable Pump in the Market!*

PUMPS FOR ALL DUTIES OF LATEST AND BEST DESIGN!



Ordinary Pattern Boiler Feed or Fire Pump. For Pumping Water against Heavy Pressure. Simple—Compact—Powerful.

Complete Waterworks Plant for Towns, Villages, &c.,

—A SPECIALTY.—

CORRESPONDENCE INVITED.

AIR PUMPS  
FIRE PUMPS  
ACID PUMPS  
TANK PUMPS  
HOTEL PUMPS  
WASH PUMPS  
MINING PUMPS  
POWER PUMPS  
HYDRAULIC PRESS PUMPS

BOILER FEED PUMP  
MARINE PUMPS  
WRECKING PUMPS  
OIL LINE PUMPS  
REFINERY PUMPS  
AIR COMPRESSORS  
GAS COMPRESSORS

ILLUSTRATED  
Catalogue and  
Price List

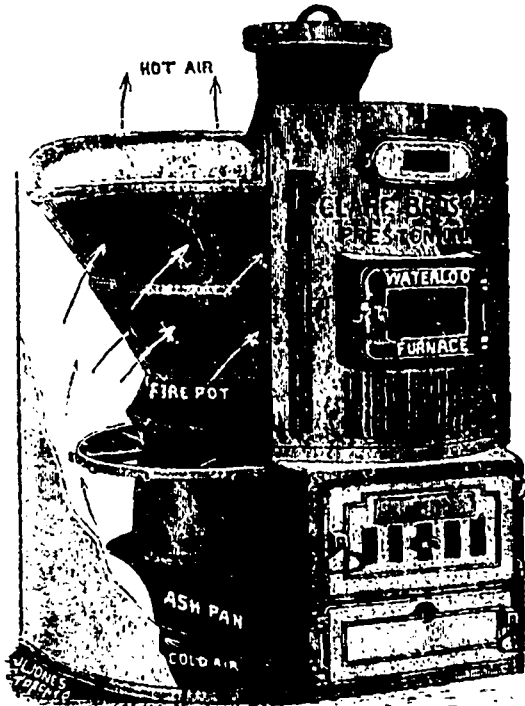
ALL  
WORK  
Always  
GUARANTEED

**NEW WATERLOO**

*All Cast Self-Feeding Furnace.*

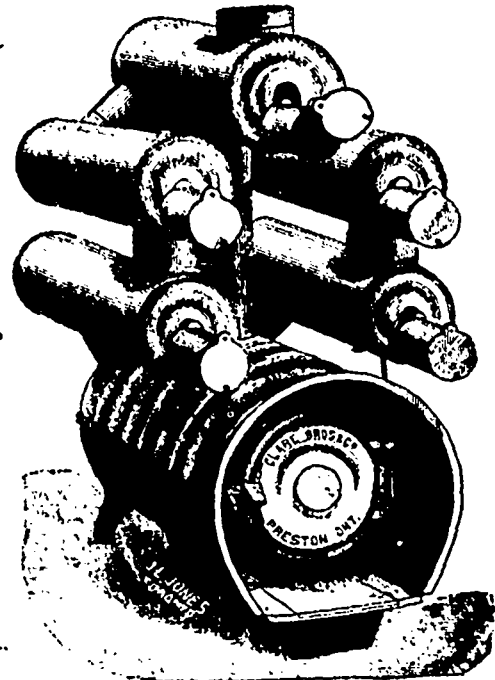
**HILBORN**

*Hot Air Wood Burning Furnace.*



CLARE  
BROS.  
& CO.  
PRESTON.

Write for Illustrated Catalogue  
and Price List of the most complete  
line of Coal and Wood Hot Air  
Furnaces and Registers manufac-  
tured in Canada.



Years in advance of all others. The most economical, durable and powerful gas-tight furnace made. Can be operated as self-feeding or fed through the front door. Is fitted with New Dock-Ash Gear Grate, the best grate known—a simple turning of the lever completely clearing the fire surface of all ashes and clinkers. Has large Ash-Pan, Sectional Fire Pot, a deep sand joint at the hottest part, allowing for expansion, renders this the most durable pot made. The Radiator presents five times as much surface to the action of the fire as ordinary furnaces, and can be more easily cleaned. This Furnace is set up in the best manner, with bronze hinge pins and knobs, dust flue, etc., and is undoubtedly the most economical furnace made.

This Furnace, made in six sizes, is unequalled for efficiency, economy, ease of management, durability. Is corrugated and made very heavy. The Drums are of heavy sheet steel (with cast iron ends and collar connections), well riveted together, so as to prevent the leakage of gas and smoke from unequal expansion and contraction. It has been largely in use for several years, and has never failed to give the most perfect satisfaction to purchasers, thus differing and entirely superseding all other wood-burning Furnaces heretofore made. Farmers who have a surplus of wood unfit for the market will find them a great relief from the vexation and annoyances of pulling down and setting up ordinary heating stoves and pipes, wood boxes, etc. We furnish the four larger sizes with either round doors, as shown on cut, or with extra large square doors.

# *Nova Scotia Steel Co., Limited,*

NEW GLASGOW, NOVA SCOTIA,  
*(Only Steel Works in Canada),*

MANUFACTURERS OF

## **Hammered and Rolled Steel**

MADE BY THE

**SIEMENS-MARTIN (OPEN HEARTH) PROCESS.**

ROUND MACHINERY STEEL for Shafting, Spindles, etc. MILD STEEL for Rivets, Bolts  
Thresher Teeth, and many purposes where Norway Iron is now used.

SPECIAL SECTION FLOW BEAMS, MILD STEEL CENTRE AND SOLID MOULD BOARDS,  
COULTER STEEL HARROW DISCS,

AGRICULTURAL STEEL CUT TO PATTERN, SPRING, SLEIGH SHOE, TYRE, TOE CALK AND CROSS BAR STEEL,  
STEEL NAIL PLATE.

**Binder Bars, Z and other Special Sections.**

STEEL MOWER BARS.

Particular attention given to the manufacture of Rake, Cultivator and Harrow Teeth, and other  
Agricultural Spring Steel Forgings.

FOLDING AND EXTENSION

Iron and Steel

Gates and Guards

(PATENTED JUNE 8th, 1882.)

FOR Banks, Vaults, Elevators, Public Buildings, Asylums, Factories, Houses, Driveways, Stores, Theatres, Stables, Baggage, Express, Postal and Sleeping Cars, Express and Delivery Wagons, Windows, Doors, &c.

THE Ontario Folding Iron Gate and Guard Co.

OFFICE AND MANUFACTORY: THE FENSON ELEVATOR WORKS,

31, 36 AND 38 DEKE ST., TORONTO.

Correspondence solicited and Illustrated Catalogues furnished on application.

1873. GRIP! 1887.

CANADA'S COMIC JOURNAL.

ANNOUNCEMENT FOR THE COMING YEAR.

GRIP is now so well known as to require very little of either description or praise. It is

The Only Cartoon Paper in Canada, and it is furnished at about ONE-HALF THE PRICE of similar journals in the United States

GRIP'S CARTOONS.

in addition to being strictly imported when they refer to politics, are always on the side of patriotism and morality.

The late improvements are universally admitted. The Journal is enlarged to 16 pages, and it is printed upon heavy toned and well-calendered paper. This gives both the engravings and the letter-press a beautiful appearance. And, notwithstanding this enlargement and improvement, the price of GRIP is

Only \$2 a year; Single Copies, 5 cents.

(the price is commanded when but a four-page sheet.)

GRIP'S PLATFORM:

Humor without Vulgarity; Patriotism without Partizanship Truth without Temper.

GRIP must be with us this favorite Canadian Cartoon Paper. Its fine places it within the reach of all

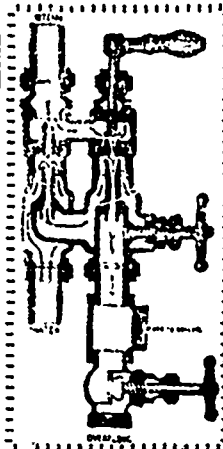
and from the Grip Printing and Publishing Co., 27 and 29 Front Street West, Toronto. New subscribers, sending \$2, will receive the paper the balance of 1887, and also the December, 1887.

TO ADVERTISERS.

A list of 1000 newspapers, divided into STATES AND SECTIONS will be sent on application - FREE.

To those who want their advertising to pay, we can offer no better plan, for a thorough and effective work than the various sections of our Select Local List.

GEO. P. ROWELL & CO., Newspaper Advertising Bureau, 10 Spruce street, New York



JAMES MORRISON,

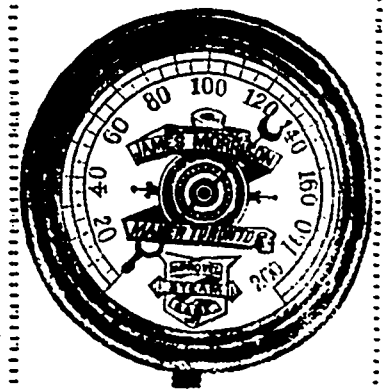
IMPORTER AND MANUFACTURER OF

Steamfitters' and Plumbers' Supplies

75 & 77 ADELAIDE ST. WEST, TORONTO.

SANITARY EARTHENWARE Now in Stock: Morrison's Washout Hopper, National Water Closet.

- Crown Water Closet, London Water Closet, Perfect Water Closet, Jennings's Valve Closet, Demarest Valve Closet, Alexander Valve Closet, A full stock of Washbasins, Urinals, etc. Also, complete stock of Wrought Iron Pipe and Fittings, Brass and Iron Valves, Plumbers' and Steamfitters' Brass Work, Rubber Hose, Belting, Packing, etc. Sole Canadian representative of the Celebrated Hancock Insulator.



ADVERTISERS

Can learn the exact cost of any proposed line of Advertising in American Papers by addressing

Geo. P. Rowell & Co's

Newspaper Advertising Bureau, 10 Spruce St., New York.

Send 10 cts. for 176 Page Pamphlet.



# ROBIN & SADLER,

MANUFACTURERS OF

## LEATHER BELTING

SEND FOR PRICE LISTS AND DISCOUNTS.

MONTREAL, 2518, 2520, 2522, Notre Dame St.

TORONTO, 129 Bay St.

TELEPHONE 110 B.

TELEPHONE 1101.

Mill Owners in the West will find it to their advantage to order their BELTING from our Toronto House.

We guarantee their orders well and promptly filled, for we keep on hand all sizes from 2 to 16 inch, **SINGLE AND DOUBLE**; also: Lace Leather, Belt Hooks, Belt Punches, etc., etc.

**J. L. JONES**  
WOOD ENGRAVER  
10 KING ST. EAST  
TORONTO  
SEND FOR PRICES

**W. H. BANFIELD,**  
TORONTO.

**MACHINIST AND DIE MAKER,**

MANUFACTURER OF

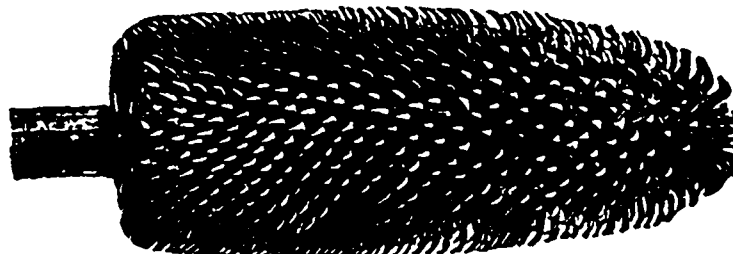
Foot and Power Presses,  
Combination and Cutting Dies,  
Tinsmiths' Tools, Knitting Machines, etc.

CUTTING AND STAMPING TO ORDER FOR THE TRADE.

Special Attention paid to Repairing Factory Machinery.  
78 WELLINGTON STREET, WEST.

**THOMAS C. KELLOGG,**  
SKANEATELES N.Y., U.S.A.,

Trucks etc. etc. W. C. Gird and  
packed in Wm. Premises.  
New York Office,  
301 BROADWAY,  
A. H. B. & Co., Montreal.



DEALERS IN  
ANY  
CROWD OF  
American Tarsels,  
CLIPPED AND PACKED  
TO ANY  
DESIRED SIZE.

T. H. EATON & SON, Windsor, Ont., and Detroit, Mich., Agents for Ontario.

Correspondence Solicited.

Samples sent by Mail upon Application.

**THE BELL  
Telephone Co'y  
OF CANADA**

—Manufacturers and Dealers in—

*Telegraph & Electrical*

**INSTRUMENTS,**

Electro-Medical Apparatus,

Fire Alarm Apparatus,

Magnets for Mills

Electrical Gas Lighting Apparatus,

Burglar Alarms,

Hotel and House Annunciators,

Electric Call Bells, &c., &c.

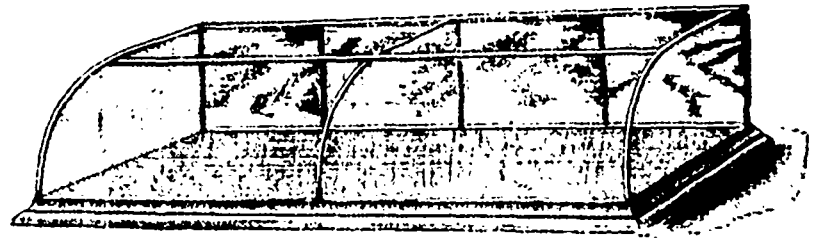
For further particulars apply to

**No. 12 HOSPITAL STREET,**

**MONTREAL.**

**DOMINION SHOW CASE  
MANUFACTURING CO'Y**

J. P. WAGNER.  
C. SCHACK.  
H. G. LAWRENCE.  
WM. MAHL.



SILVER MEDAL  
Toronto Exhibition, 1878

FIRST PRIZE  
Provincial Exp., Ottawa, '81

SEND FOR CATALOGUE AND  
PRICE LIST

Show Cases, of Every Description in Nickel, Silver  
Walnut, Ebonized, Etc.

HARDWOOD STORE FITTINGS, METAL SASH EYES, Etc.

SHOWROOMS AND FACTORY.

59, 61 and 63 Adelaide St. West, TORONTO, Ont.

Canada Tool Works, **JOHN BERTRAM & SONS** DUNDAS, ONT.

MANUFACTURERS OF

**MACHINE TOOLS AND WOOD WORKING MACHINERY.**

Special attention is directed to our new heavy class of Lathes, with *Inverted V Shears, large Bearing Surfaces*, and all the **PARIS INTERCHANGEABLE.**

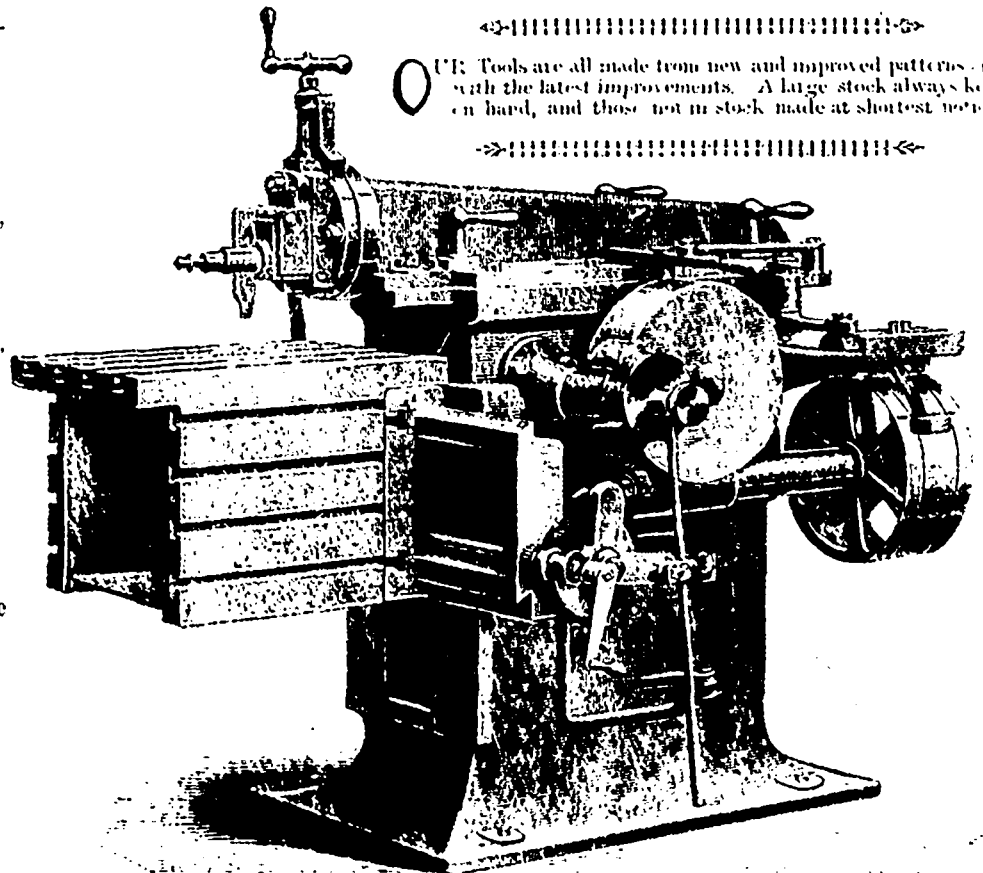
In our List will be found the following.

- Lathes, Planers, Drills, Bolt Cutters,
- Files and Shears,
- Boiler Makers' Reels, Slotting Machines,
- Milling Machines,
- Cutting-off Machines, Shafting Lathes,
- Rolling Turning Lathes,
- Wood Planes and Machining Machines,
- Surface Planers
- Moulding Machines, Working Machines
- Tenoning Machines, Band Saws
- Scroll Saws,
- Wood-Turning Lathes, Timber Dressers,
- Etc., Etc., Etc.

Complete Sets of Machinery for Locomotive  
Works, Car Works, Implement Works,  
Cabinet Factories, Planing Mills,  
Machine Shops, Etc., Etc.

**Write for Prices and Catalogues.**

BUSINESS ESTABLISHED 1862.



Our Tools are all made from new and improved patterns, and with the latest improvements. A large stock always kept on hand, and those not in stock made at shortest notice.

# Parks' Cotton Manufactures

Awarded the Only "Gold Medal" Given at the Toronto Exhibition of 1885, for Cotton Goods.

*Fancy Wave Shirtings.*

FAST COLORS, - - - FULL WEIGHTS.

Quality always Equal to Samples sent out.

## COTTONADES.

Our celebrated line of Lausdowne Tweeds, the best value, for least cost, of any made in Canada.

## BALL KNITTING COTTONS.

Better Spun, Twisted, Bleached and Dyed than any other in the Market. For Sale by all Wholesale Houses.

No Goods Genuine Without Our Name Upon Them.

NO PRIVATE BRANDS.

WILLIAM PARKS & SON (Limited),

ST. JOHN, N.B.

AGENTS:

Wm. Hewett, Toronto;

Duncan Bell, Montreal;

Bedard, Girard & Co., Quebec.



No. 1621.

*Tile Register Grate, Fire Brick Back and Sides.*

*Embossed Tile Hearths.*

Polished Brass Kerb Fenders. Brass Fire Sets and Andirons.

WRITE FOR CATALOGUE.

# RICE LEWIS & SON,

IMPORTERS, TORONTO.

## THE WELLINGTON MILLS LONDON

# GENUINE EMERY

OAKEY'S Flexible Twilled Emery Cloth.  
OAKEY'S Flint Paper and Glass Paper.  
OAKEY'S Emery Paper, Black Lead, &c., &c.

PRIME MEDAL AND HIGHEST AWARD, PHILADELPHIA, 1876

For Superiority of Quality, Skilful Manufacture, Sharpness, Durability, and Uniformity of Grain.

Manufacturers: JOHN OAKEY & SONS, Wellington Mills, WINDING BRIDGE ROAD, LONDON, ENGLAND

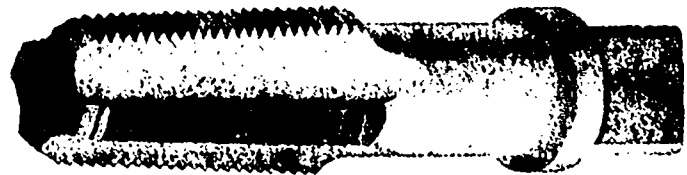
Enquiries should be addressed to

JOHN FORMAN, 467, ST. PAUL ST., MONTREAL.

## THE MAN

## WHO SPENDS MONEY

For advertising in newspapers in these hard times, without first obtaining an estimate of the cost from GEO. P. ROWELL & CO'S Newspaper Advertising Bureau, 10 Spruce Street, New York, is likely to pay \$10 for what might be obtained for \$5. Such estimates are furnished to all applicants gratis. Send 10 cent for 176 page pamphlet with list of newspaper rates and reference.



## BUTTERFIELD & CO.

ROCK ISLAND, P.Q.

MANUFACTURERS OF

# PIPE TAPS, AND REAMERS

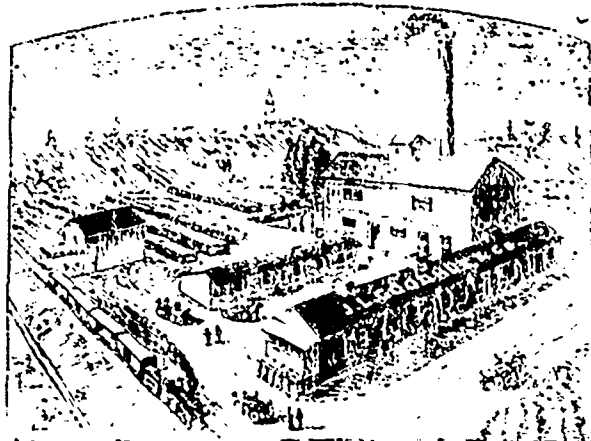
Pipe Stocks and Dies, Tongs, Cutters, Vises, and Labor-Saving Tools for Blacksmiths',

Carriage Makers', Machinists'

and Gasfitters' Use.

Send for Illustrated Catalogue, 1887.

NAME THIS PAPER.



## J. L. GOODHUE & CO.

ORDERS  
PROMPTLY  
FILLED.

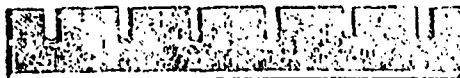
### LEATHER BELTING

WRITE  
FOR  
PRICES.

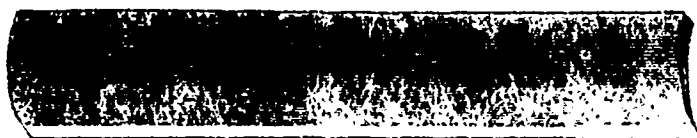
✦ DANVILLE, P. QUE. ✦

### GALT MACHINE KNIFE WORKS.

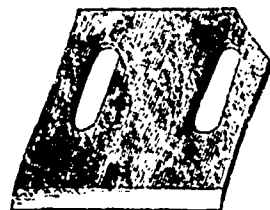
PLANING MACHINE  
KNIVES.



STAVE CUTTER KNIVES.



STAVE JOINTER KNIVES.



MOULDING, TENONING,  
MITREING,  
SHINGLE JOINTER,  
And other irregular shapes.

Cheese-box and Veneer, Paper Cutting, Leather Splitting and any special knife made to order. SEND FOR PRICE LIST. ALL WORK WARRANTED.

PETER HAY, GALT ONT.

## Millers' and Manufacturers' INSURANCE COMPANY.

STOCK AND MUTUAL.

### OBJECTS.

1. To prevent by all possible means the occurrence of avoidable fires.
2. To obviate heavy losses from the fires that are unavoidable by the nature of the work done in mills and factories.
3. To reduce the cost of insurance to the lowest point consistent with the safe conduct of the business.

### METHODS.

All risks will be inspected by a competent officer of the company, who will make such suggestions as to improvements required for safety against fires, as may be for the mutual interests of all concerned.

Much dependence will be placed upon the obligation of members to keep up such a system of discipline, order, and cleanliness in the premises insured as will conduce to safety.

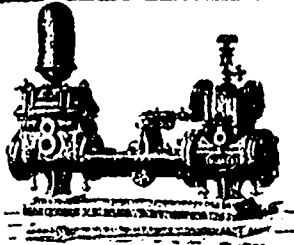
As no agents are employed and the company deals only with the principals of the establishments insured by it, conditions and exceptions which are so apt to attend the insured and promote controversy and litigation in the settlement of losses will thus be avoided.

The most perfect method of insurance must, in the nature of things, be one in which the self-interest of the insured and the underwriters are identical, and this has been the object aimed at by the organizers of the company.

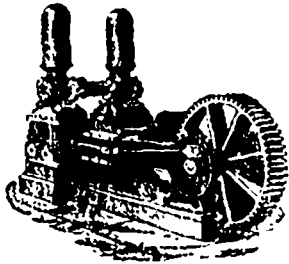
**W. H. HOWLAND,** Vice-President. **JAMES GOLDIE,** President.  
**HUGH SCOTT,** Managing Director.

Applicants for Insurance and other information desired, please address **MILLERS' AND MANUFACTURERS' INSURANCE COMPANY,** No. 24 Church Street, Toronto

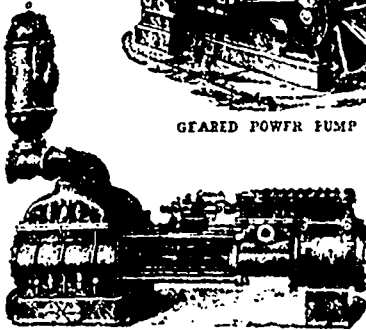
# Geo. F. Blake Manufacturing Co.,



BOILER FEED PUMP

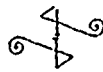


GEARED POWER PUMP



DUPLEX COMPOUND ENGINE

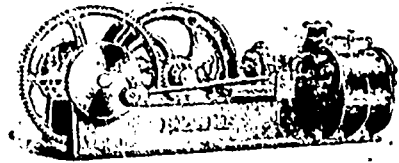
BUILDERS OF  
SINGLE AND DUPLEX  
Steam and Power  
Pumping Machinery



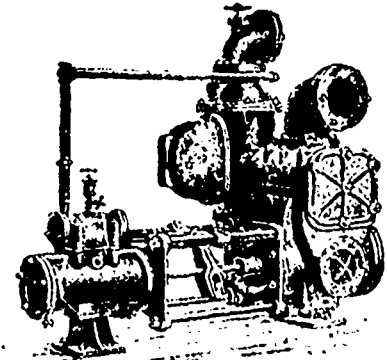
BOSTON,  
44 WASHINGTON STREET.

NEW YORK,  
93 LIBERTY STREET.

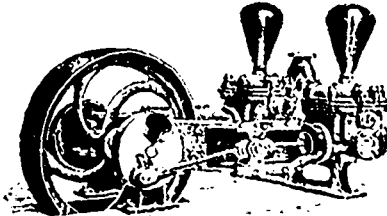
SEND FOR ILLUSTRATED CATALOGUE.



AIR COMPRESSOR



AIR PUMP AND CONDENSOR

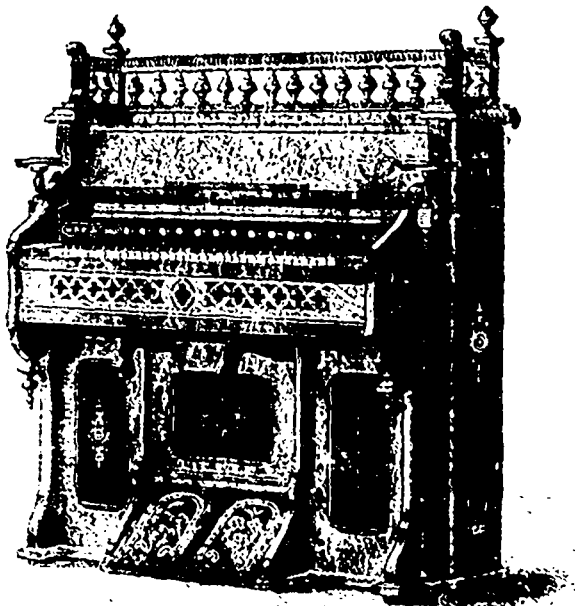


BELT PUMP

# BELL ORGANS

FOR  
Chapel,  
Church,  
Lodge,  
Parlor.

## ARE THE BEST



OUR Large Double and Single Manual Organs  
are the best in the Market, and  
Musicians should see them before  
buying elsewhere

CATALOGUES  
SENT ON APPLICATION

# W. BELL & CO.,

GUELPH, CANADA.



## Industrial and Trade DIRECTORY.

### Acids and Aniline Dyes.

**THEO. H. EATON & SON**, Windsor, Ont.; Detroit, U.S.A. Importers Every Description Pure Aniline Dyes for Cotton and Woolen Manufacturers. Dyed Samples furnished on application. Address all correspondence to Head Office, Detroit, Mich.

### Agricultural Implements.

**A. S. WHITING MANUFACTURING CO.**, Cedar Dale, Ont. Manufacturers of scythes, forks, hoes, etc.

**WELLAND VALE MANUFACTURING CO.**—Lock No. 2, St. Catharines, Ont., Canada—Manufacturers of axes, scythes, forks, hoes, rakes and edge tools.

### Bobbins and Spools

**THOMPSON & CO.**, Sherbrooke, P. Q.—Manufacturers of all kinds of Bobbins and Spools for Cotton and Woollen Mill.—Special patterns made to order from sample

### Bridge Builders.

**DOMINION BRIDGE CO. (Limited)**,—Shops at Toronto, Ontario, and Lachine, Quebec. Builders of Steel and Iron Railway and Highway Bridges.

### Chemicals.

**DOMINION DYEWOOD AND CHEMICAL CO.**, Toronto.—Importers and Manufacturers. Chemicals for Cotton, Woollen, Paper and Leather Manufacturers.

**McARTHUR, CORNEILLE & CO.** (successors to John McArthur & Son), Montreal.—Offer at lowest figures chemicals required by soap-boilers, oil refiners, paper-makers, and by manufacturers of woollens, cottons, leather, &c.

### Cotton Mills.

**HAMILTON COTTON MILLS CO.**, Hamilton.—Denims, tickings and yarns.

### Dyes, Dyeing Drugs and Extracts.

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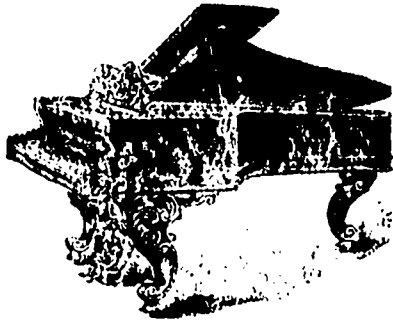
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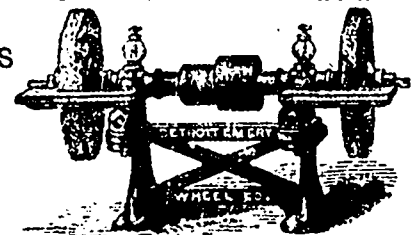


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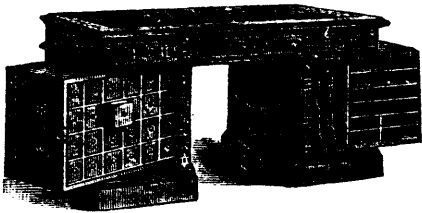
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